# Energy XT
# Communication Protocols

ENGLISH

Invensys Controls Europe
An Invensys Company

**SOMMARY**


1 How to use this manual ..... 3
2 Energy XT Serials UART ..... 4
2.1 Serial “COM1” (RS485) ..... 4
2.1.1 Use ..... 4
2.1.2 Protocols Usable on “COM1” ..... 5
2.1.3 COM1 PARAMETERISATION (parameters in EEPROM highlighted) ..... 5
2.1.4 Local RS485 topology ..... 5
2.2 COM3” (RS232 / TTL) serial ..... 6
2.2.1 Use ..... 6
2.2.2 Protocols Usable on “COM1” ..... 6
2.2.3 COM3 PARAMETERISATION (parameters in EEPROM highlighted) ..... 6
2.2.4 MODEM management ..... 7
2.2.5 Local RS232 topology ..... 7
2.2.6 Remote RS232 topology ..... 8
2.2.7 Local TTL topology ..... 9
2.2.8 SUB-D 9 poles MALE of Energy XT ..... 9
3 Modbus Functions and resources ..... 10
3.1 Data format (RTU) ..... 10
3.2 Modbus functions available and data areas ..... 10
3.3 Address configuration ..... 11
3.4 Enabling configuration from serial ..... 11
4 Functions ..... 13
4.1 “Black Box” ..... 13
4.1.1 Read “Black Box” ..... 13
4.2 Alarm History ..... 14
4.2.1 Read Alarm History ..... 14
5 Table of parameters ..... 16
6 Tabella Client ..... 41
7 Comandi Modbus per lettura o scrittura I/O ..... 76
7.1 Commands 3 and 16 ..... 76
7.1.1 Sensor addresses with Modbus command 3 or 16 ..... 76
7.1.2 Digital input addresses with Modbus command 3 or 16 ..... 76
7.1.3 Analogue output addresses with Modbus command 3 or 16 ..... 78
7.1.4 Digital output addresses with Modbus command 3 or 16 ..... 78
8 Appendice ..... 80
8.1 Troubleshooting ..... 80
8.1.1 No Modbus communication ..... 80
9 Responsabilità e rischi residui ..... 83
10 Declinazione di responsabilità ..... 84
11 Analytic Index ..... 85

# 1 HOW TO USE THIS MANUAL

To facilitate *use* of the manual, customers may find the following useful:

**Call-outs**

**Callout column:**
Callouts on the topics described are placed to the left of the text to allow the user to find the desired information quickly.

**Cross references**

***Cross references*:**
All the words in *italics* are listed in the index with a reference to the page where they are described in more detail;
the text below serves as an example:
"activation of the alarm stops the compressors"
The italics indicate that under Compressors in the index there is a reference to the page where compressors are described in more detail.
If the online Help on the PC is used, the words in italics become proper hyperlinks (automatic links activated with a click of the mouse ) that connect the different sections in the manual and allow you to navigate through the document.

**Highlighted icons**

Some parts of the text are highlighted in the callout column using icons that have the following meanings:

**Note**: draws attention to a specific topic that users should take into account.

**Tip**: highlights a suggestion that helps users to understand and *use* the information on the topic described.

Warning! : highlights information that may damage the system or place persons, equipment, data, etc at risk if not known. These sections must always be read prior to *use*.

# 2 ENERGY XT SERIALS UART

**UART serials**

Energy XT has two UART-type communication ports indicated with the names *COM1* and *COM3*.

**COM1**

***COM1*:**

An RS485-type serial with RS485+, RS485- and RS485GND signals

**COM3**

***COM3*:**
An RS232-type serial with TX, RX, CTS, RTS and DTR (fixed) signals. It is accessible, albeit with different procedures, through a DB9 connector and a MOLEX-type connector (located next to COM4) that "receives" only TX, RX and RTS signals **on a TTL electric level**.

**"Parameters" table COM1 and COM3:**

Given below is the list of *parameters* necessary to set the *COM1* and *COM3* serials:

| Label | *Modbus* address [DEC] | *COM1* AND *COM3 PARAMETERS* | Description |
|---|---|---|---|
| Cm24 | 39191 | *COM1* type protocol | *COM1* serial protocol selection:<br>2=*Micronet*<br>3=*Modbus*/RTU |
| Cm25 | 39192 | BAUD *COM1* | *COM1* serial baud selection:<br>0 = 9600 b/s<br>1 = 19200 b/s<br>2 = 38400 b/s |
| Cm26 | 39193 | *COM1* parity | *COM1* parity selection<br>0 = none<br>1 = odd<br>2 = even |
| Cm27 | 39194 | *COM3* Protocol Type | *COM3* protocol selection<br>0 = Televis<br>1 = Televis Modem<br>2 = *Micronet*<br>3 = *Modbus*/RTU<br>4 = *Modbus*/ASCII |
| Cm28 | 39195 | BAUD *COM3* | *COM3* baud selection<br>0 = 9600 b/s<br>1 = 19200 b/s<br>2 = 38400 b/s |
| Cm29 | 39196 | *COM3* parity | *COM3* parity selection<br>0 = none<br>1 = odd<br>2 = even |
| Cm30 | 39197 | Data Length *COM3* | Selection 7/8 data bits *COM3* |
| Cm31 | 39198 | Disable RTS COM2 | 0=normal management, 1=always high for feeding RS232-RS485 external converters |

**N.B:** Further information on *parameters* is given in the *parameters* table in section 5.
**Important**: serial *parameters* must be set as modus protocol.

The card address is unique for serials COM1and *COM3*.
It is a byte comprising 2 parts:

- The MSB nibble is the device family and also a parameter stored in EEPROM (par. Cm01 with default 0);
- The LSB nibble is the address of the device read by the three dip switches DIP 2,3,4:

- E.g. if J2=ON, J3=OFF, J4=OFF the LSB nibble will be equal to 1
- E.g. if J2=ON, J3=ON, J4=OFF the LSB nibble will be equal to 3

**N:B.:** See the example provided and section "8.1.1.2 Hardware Address

## 2.1 Serial "COM1" (RS485)

### 2.1.1 Use

This serial can be used to connect Energy XT to the outside world.
The serial cannot be used to carry out operations on the internal and external microcontroller flash.
Packets are not spontaneously issued by this serial, but only frame response packets received according the protocols given below.
The communication speed and parity will be manageable within the possibilities of the microprocessor, HW and protocol used.

The communication speed and parity will be manageable within the possibilities of the HW and protocol used.

### 2.1.2 Protocols Usable on “COM1”

**ELIWELL protocol**

***ELIWELL protocol***
For details on how to *use* Tool ParamManager
**--> refer to the Param Manager manual for further information**

**MODBUS**

***MODBUS***
For connection of the instrument as a SLAVE-type peripheral to an RS485 network containing any HOST *MODBUS* (also on PC) as host MASTER. The *MODBUS* protocol will only be RTU-type with fixed baud/rate of 9600 b/s

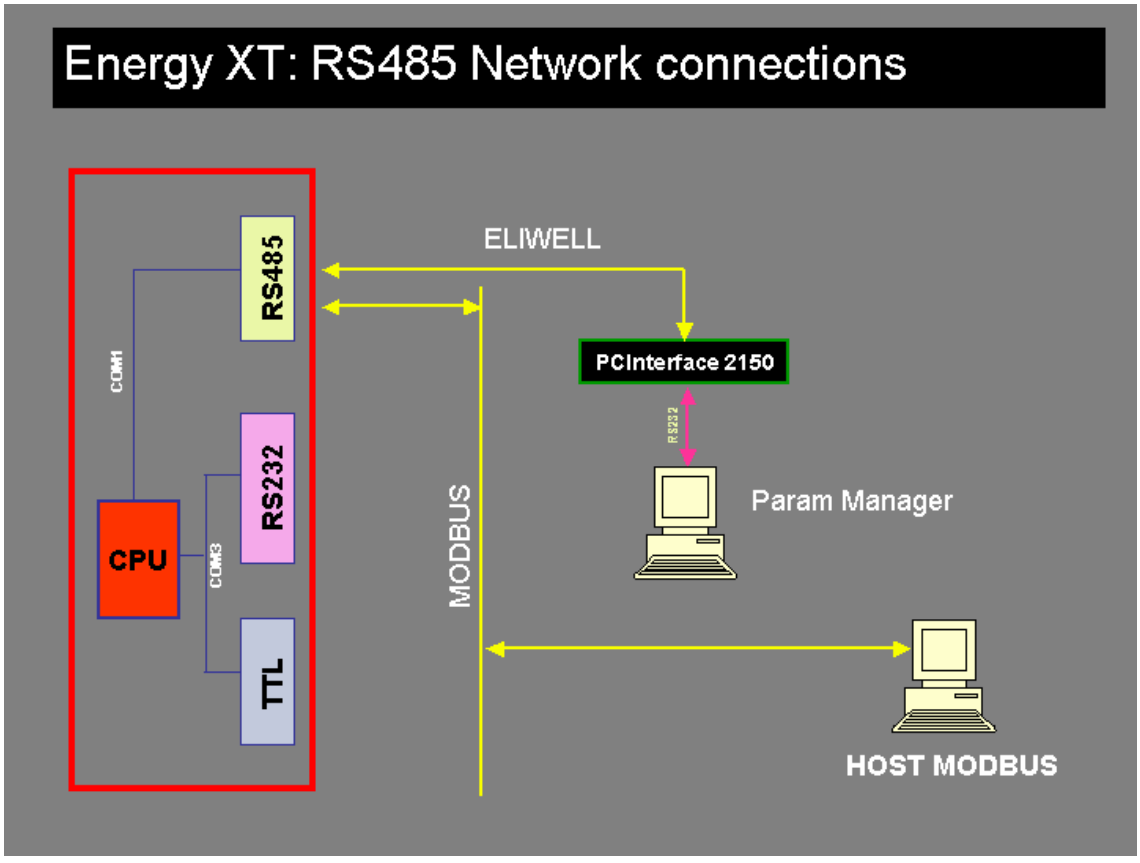
**Micronet**

To connect the instrument as a SLAVE to an RS485 network containing TelevisCompact, Televis (via EWTK), Qlink and ParamManager as MASTER host. No RVD.

### 2.1.3 COM1 PARAMETERISATION (parameters in EEPROM highlighted)

| | *ModBUS*/RTU |
|---|---|
| *COM1* type protocol | 3 |
| *COM1*_BAUD | 9600 |
| 0 : 9600 b/s | |
| 1 : 19200 b/s | |
| 2 : 38400 b/s | |
| *COM1*_PARITY | hot |
| 0 : null | x |
| 1 : odd | x |
| 2 : even | x |
| *COM1*_DATA | 8 |
| 7 : 7 data bits | |
| 8 : 8 data bits | |
| *COM1*_STOP | auto (*) |
| 1 :1 stop bit | x |
| 2 :2 stop bits | x |

### 2.1.4 Local RS485 topology



## 2.2 COM3 (RS232 / TTL) serial

### 2.2.1 Use

This serial can be used to connect Energy XT to the outside world.
This serial has a "slave" function but can also spontaneously issue data packets. A typical example, in the case of *MODEM management*, is the initialisation string of the same. The types of MODEM supported are "standard" with RS232-type serial connection (MODEM 485, MODEMFAX Class 1 or 2, are not implemented) and PTSN and GSM type (for remote programming only).

The communication speed and parity are manageable by parameter.

### 2.2.2 Protocols Usable on "COM1"

**ELIWELL protocol**

***ELIWELL protocol***
For details on how to *use* Tool ParamManager
**--> refer to the Param Manager manual for further information**

**MODBUS**

***MODBUS***
To connect the instrument as a SLAVE

- to a local network containing a *MODBUS* HOST on PC as a MASTER host.
  The *MODBUS* can be RTU (fixed baud at 9600 b/s) or ASCII
- to a MODEM for remote communications with a *MODBUS* HOST on currently unidentified PC. NB: This works only if *MODBUS*/ASCII is used

### 2.2.3 COM3 PARAMETERISATION (parameters in EEPROM highlighted)

| | *ModBUS*/RTU | *ModBUS*/ASCII |
|---|---|---|
| ***COM3*** **type protocol** | **3** | **4** |
| ***COM3*_BAUD** | **9600** | **9600** |
| 0 : 9600 b/s | | |
| 1 : 19200 b/s | | |
| 2 : 38400 b/s | | |
| ***COM3*_PARITY** | **hot** | **hot** |
| 0 : null | **x** | **x** |
| 1 : odd | **x** | **x** |
| 2 : even | **x** | **x** |
| ***COM3*_DATA** | **8** | **8** |
| 7 : 7 data bits | | |
| 8 : 8 data bits | | |
| ***COM3*_STOP** | **auto (*)** | **auto (*)** |
| 1 :1 stop bit | **x** | **x** |
| 2 :2 stop bits | **x** | **x** |

**NOTE (*)**
for default *COM3*_STOP = 1, but:
if (*COM3*_PROTOCOLTYPE = *Modbus*/RTU and *COM3*_PARITY = null)
then *COM3*_STOP = 2

if (*COM3*_PROTOCOLTYPE = *Modbus*/ASCII)
then
if (*COM3*_PARITY = null and *COM3*_DATA = 7)
then *COM3*_STOP = 2
otherwise *COM3*_STOP = 1 /* (parity even and odd with data 7)
or (data 8 with any parity)*/

N.B.: For Modem-based communication with a *Modbus*/ASCII protocol, proper function is guaranteed for the majority of modems if 1 stop, 8 data, parity null and 1 stop. For other settings, check if the modem supports the data format.

### 2.2.4 MODEM management

A MODEM can be connected on the *COM3* (RS232) for the fixed telephone network.

The following is the list of *parameters* regarding the MODEM set-up for Energy XT:

| Label | *Modbus* address [DEC] | MODEM CALL PARAMETERISATION | Description |
|---|---|---|---|
| Cm09 | 39176 | Enable Modem | Enable modem |
| Cm10 | 39177 | Modem initialisation string 1 | Modem initialisation string (first part) |
| Cm11 | 39178 | Modem initialisation string 2 | Modem initialisation string (continuation) |
| Cm12 | 39179 | Modem "Hangup" string | Modem hangup string |
| Cm13 | 39180 | Telephone number | Modem call telephone number |

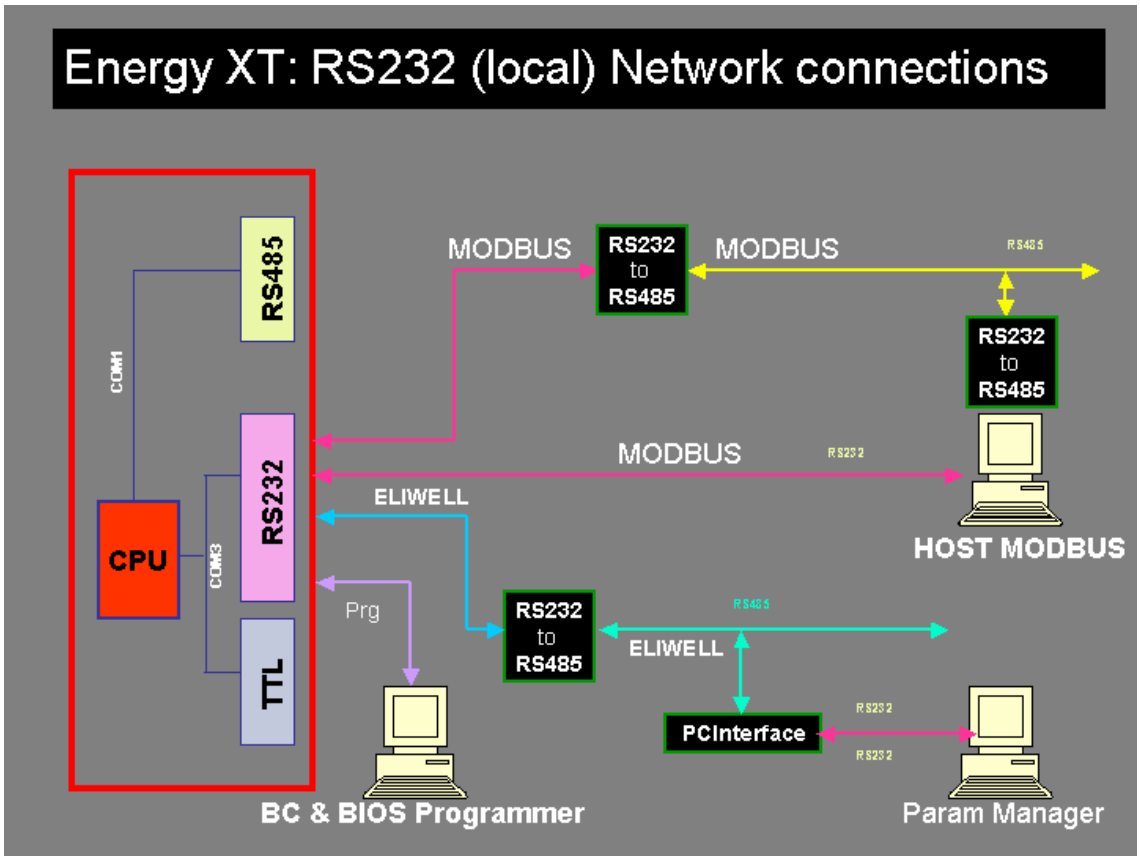
**N.B:** Further information on *parameters* is given in the *parameters* table in section X.

An example of an initialisation string would be AT&F&C1&D2E0X1S0=0&N6 and hangup ATH0.
An example of setting the NUMERO_TELEFONO (telephone number) string; to call the telephone number 655/155555 from a touchtone line, write ATDT65515555, for pulse dial lines write ATDP65515555.

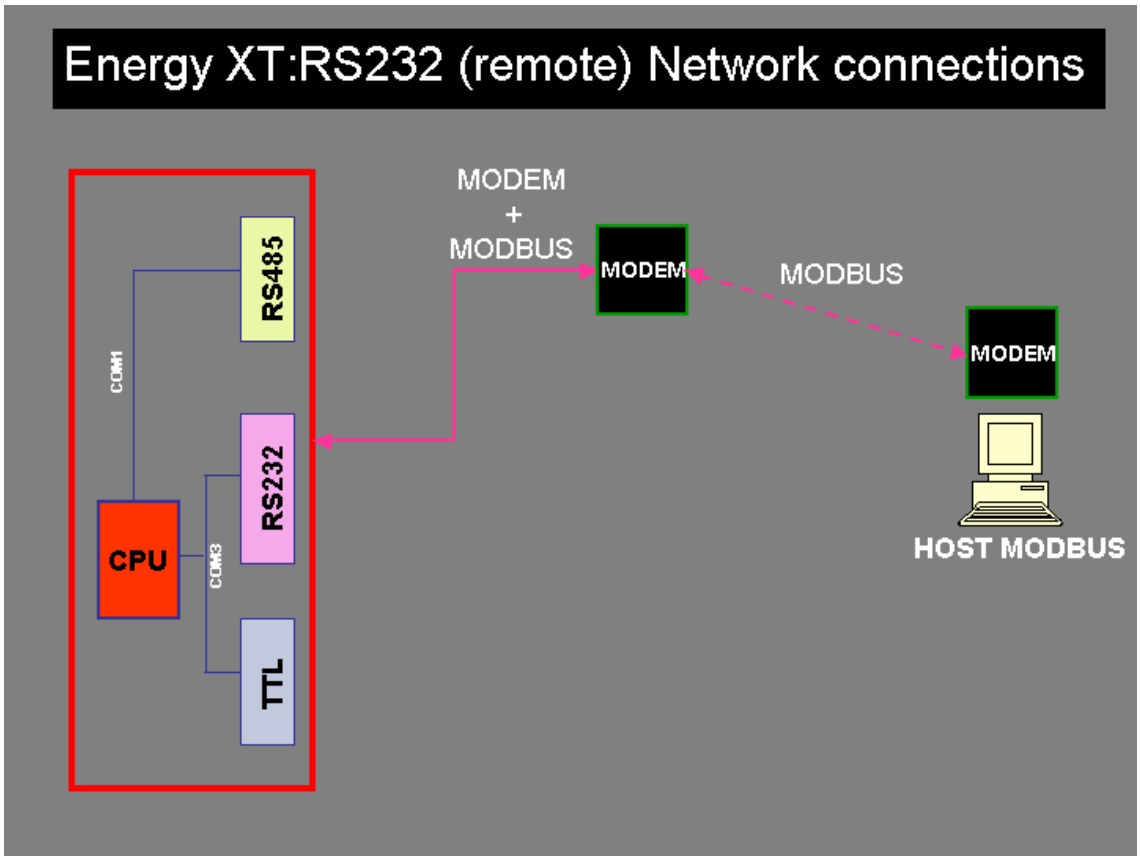
List of some MODEM/FAX devices and GSM used:

- **3COM U.S.Robotics 56K Message Modem**
- **3COM U.S.Robotics 56K FaxModem**

### 2.2.5 Local RS232 topology

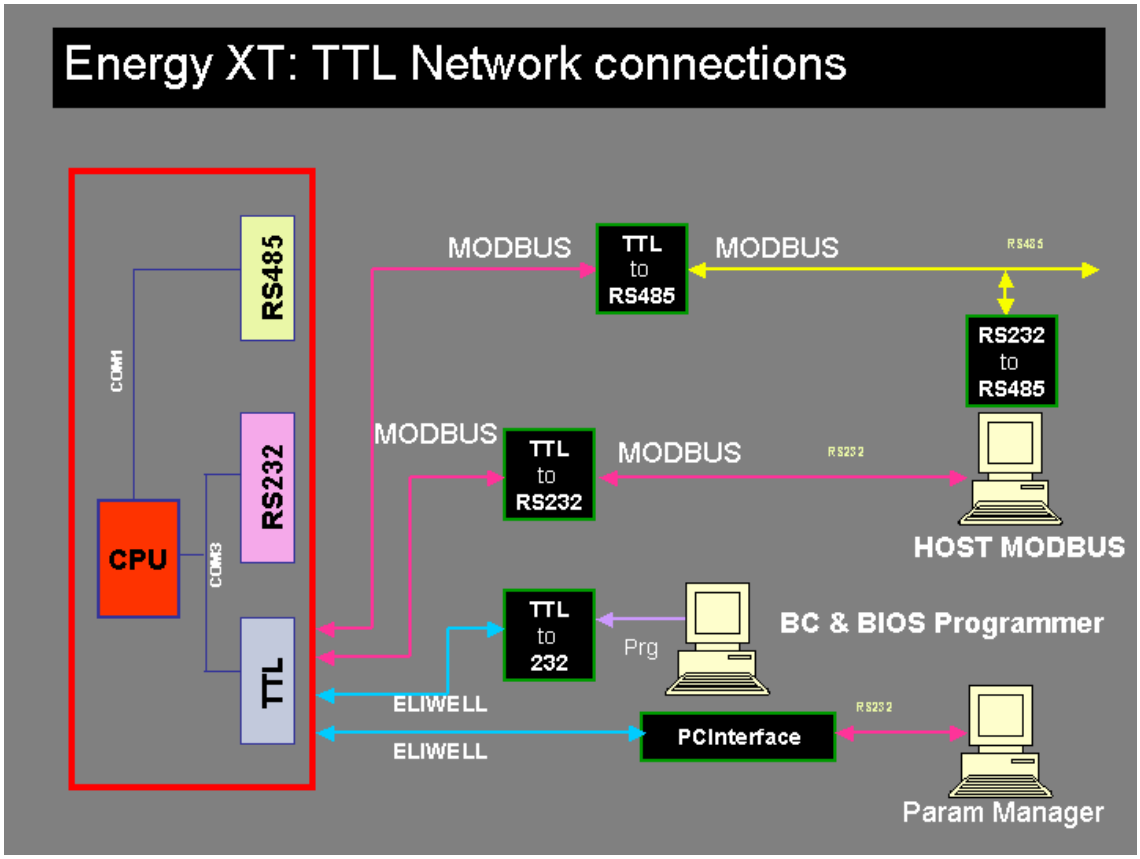


### 2.2.6 Remote RS232 topology

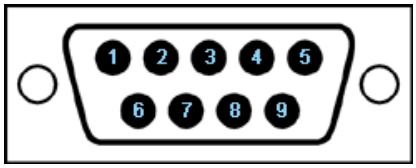



N.B.: The MODEM + *MODBUS* option implies *MODBUS*/ASCII

### 2.2.7 Local TTL topology




### 2.2.8 SUB-D 9 poles MALE of Energy XT




***SUB-D 9 poles MALE of Energy XT***
***(standard RS232 interface)***

The pin-out of the connector for the standard RS232 is represented below:

| Contact No | Code | Description |
|---|---|---|
| 1 | CD (or DCD) | Carrier Detect |
| **2** | **RxD** | **Receive Data** |
| **3** | **TxD** | **Transmit Data** |
| **4** | **DTR** | **Data Terminal ready** |
| **5** | **GND** | **Signal Ground** |
| 6 | DSR | Data Set ready |
| **7** | **RTS** | **Request to send** |
| **8** | **CTS** | **Clear to Send** |
| 9 | RI | Ring Indicator |

The HW pins arranged for the EnergyXT application are marked in bold.
At present pin 8 CTS is not used, therefore the HW flow control is not currently available.

# 3 MODBUS FUNCTIONS AND RESOURCES

*Modbus* is a client/server communication protocol between devices connected on a network.
*Modbus* instruments communicate using a master-slave technique in which only one device (master) can send messages. The other devices on the network (slave) respond by returning the data requested by the master or by performing the action indicated in the message sent. A slave device is a device connected to the network that processes information and sends the results to the master using the *Modbus* protocol.
The master can send messages to individual slaves, or send messages to the whole network (broadcast), whereas the slave instruments respond to the messages individually and to the master device.
The *Modbus* standard used by Eliwell foresees the *use* of RTU coding for data transmission.

## 3.1 Data format (RTU)

The coding model used defines the structure of messages transmitted on the network, and the way in which this information is decoded. The type of coding is normally selected based on specific *parameters* (baud rate, parity, etc...), also, certain devices only support certain coding models, however it must be the same for all the instruments connected to a *Modbus* network.
The protocol uses the binary RTU method with the byte made up as follows:
8 data bits, parity bit even (not configurable), 1 stop bit.

**N.B.: the transmission speed must be set to 9600 baud.**
Setting the *parameters* allows the instrument to be fully *configurable*
They can be modified by means of:

- instrument keyboard
- sending the data using the *ModBus* protocol, directly to an individual instrument, or by broadcast, using address 0 (broadcast)

## 3.2 Modbus functions available and data areas

| *Modbus command* | *Command description* |
|---|---|
| **3** | All consecutive registers in the same area are read (see *Parameters* Table) |
| **16** | All consecutive registers in the same area are written (see *Parameters* Table) |

**Product identification**

The product in question can be univocally recognised using the hexadecimal Family (Release version values). Regarding the Energy XT product:

Example:
Fam/Ver: "C408" formed of Family Code C4 = 196 and version 08= 1

With *MODBUS* protocol it must be possible to :

| Point | Information | *MODBUS*(*) command |
|---|---|---|
| 1 | Read / write *parameters* and/or variables | 3/16 |
| 2 | Read / write time bands | 3/16 |
| 3 | Read / write clock | 3/16 |
| 4 | Read alarms | 3 |
| 5 | Block output status updating by regulators | 16 |
| 6 | Read / write status of digital outputs | 3/16 |
| 7 | Read / write status of analogue outputs | 3/16 |
| 8 | Read analogue inputs – also see point 1 - | 3 |
| 9 | Read digital inputs – also see point 1 - | 3 |
| 10 | Read machine status (stand-by, heat, cool) and compressor status (selected, power, etc.) | 3 |
| 11 | Read / modify machine operating mode (heat, cool, etc.) | 3/16 |
| 12 | Read / modify machine ON/OFF status | 3/16 |
| 13 | Read / modify selection of compressors | 3/16 |
| 14 | *Read Alarm History* | 20 |
| 15 | Reset *Alarm History* | 16 |
| 16 | Reset alarms – also see point 4 - | 16 |
| 17 | *Read "Black Box"* | 20 |
| 18 | Reset *"Black Box"* | 16 |
| **19** | **Password recognition to enable communication** | **16** |
| **20** | **Reading of FW/HW version** | **43** |

**(*) also referred to as Function Code in ModbBUS terminology**

Only the information obtainable via serial in **bold** in the previous table is always accepted by Energy XT in read.
The remaining information is accepted with different access levels by means of password using the serial command linked to **Password Recognition to enable communication**.

In particular:

- READ PASSWORD enabling read and write commands
- USER PASSWORD enabling read and write commands.
- ADMINISTRATOR PASSWORD enabling read and write commands (not modifiable by USER).

**N.B.:** on entering the ADMINISTRATOR password, all 3 passwords can be changed. Entering the USER password will only allow the USER and READ passwords to be changed.

**IMPORTANT:** See sub-section 8.1.1.4 Password

## 3.3 Address configuration

The address of a device within a *ModBus* message is made up of one byte and comprises:

- **MSB nibble:** family code = parameter **Cm01** (Family Address)
- **LSB nibble:** instrument address = Hardware address defined by DIP SWITCHES 2,3,4
  **(see section 2 UART serial ports in ENERGY XT and sub-section 8.1.1.2 Harware Address)**

| **INSTRUMENT *CONFIGURATION PARAMETERS*** | | | |
|---|---|---|---|
| **Par** | ***Modbus* address [DEC]** | **Description** | **Range** |
| **Cm01** | **39168** | Family serial address | 0...14 |
| **Cm24** | **39191** | *COM1* (0,1,2,3) protocol type<br>**N.B.:** To guarantee correct operation, the controller must be switched off and switched on again after modification of this | *COM1* serial protocol selection:<br>2=*Micronet*<br>3=*Modbus*/RTU |
| **Cm25** | **39192** | BAUD *COM1* | *COM1* serial baud selection:<br>0 = 9600 b/s<br>1 = 19200 b/s<br>2 = 38400 b/s |
| **Cm26** | **39193** | *COM1* parity | *COM1* parity selection<br>0 = none<br>1 = odd<br>2 = even |
| **Cm27** | **39194** | *COM3* (0,1,2,3) protocol type<br>**N.B.:** To guarantee correct operation, the controller must be switched off and switched on again after modification of this parameter. | *COM3* protocol selection<br>0 = Televis<br>1 = Televis Modem<br>2 = *Micronet*<br>3 = *Modbus*/RTU<br>4 = *Modbus*/ASCII |
| **Cm28** | **39195** | BAUD *COM3* | *COM3* baud selection<br>0 = 9600 b/s<br>1 = 19200 b/s<br>2 = 38400 b/s |
| **Cm29** | **39196** | *COM3* parity | *COM3* parity selection<br>0 = none<br>1 = odd<br>2 = even |
| **Cm30** | **39197** | Data Length *COM3* | Selection 7/8 data bits *COM3* |
| **Cm31** | **39198** | Disable RTS COM2 | 0=normal management, 1=always high to supply RS232-RS485 external converters |

## 3.4 Enabling configuration from serial

If you need access to *configuration* from the serial port to modify COLD *parameters*, switch the machine off and run an access procedure using the relevant address in the State area (see sub-section 8.1.1.5 Communication test in Area 5).
You will have to enter a password (USER password is sufficient) as the procedure involves write commands.
Data is read (with *modbus* command 3) then written (*modbus* command 16) to *modbus* address 14A described in the table below:

| NP | *Modbus* Add [hex] | Description of element | VAL | Always readable | Writable only after password recognition |
|---|---|---|---|---|---|
| 9 | **14A** | *Enabling configuration from serial*. Used for writing COLD-type *parameters* | 0:_NON_PUOI_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (ENTRY TO *CONFIGURATION* NOT PERMITTED (READ)<br>1:_AVVIA_SEQUENZA_PER_POTER_RICHIEDERE_CONFIGURAZIONE_ (WRITE) (START SEQUENCE TO OPEN *CONFIGURATION*)<br>2:_ATTENDI_PER_POTER_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (WAIT TO OPEN *CONFIGURATION*)<br>3:_PUOI_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (YOU CAN OPEN *CONFIGURATION* NOW)<br>4:_RICHIEDO_CONFIGURAZIONE_ (WRITE) (OPEN *CONFIGURATION*)<br>5:_SEI_IN_CONFIGURAZIONE_ (READ) (*CONFIGURATION* OPEN)<br>6:_ESCI_DALLA_CONFIGURAZIONE_ (WRITE) (EXIT *CONFIGURATION*) | X | X |

The procedure to access *configuration* over the serial port is described below:

Send read command (command 3) to address 14A
If the value read = 0 : *configuration* cannot be accessed from the serial port, the machine may still be switched on (it must be switched off).
In this instance, a read command must be executed (command 16) with value = 1 to start the switch off machine sequence. At this point, repeat the read command as outlined in point 1.
If the value read = 3 : execute a write command (command 16) with value = 4 to request access to *configuration*. Then execute a read command (command 3): if the value read = value 5 then you have completed access to *Configuration* from Serial port.

To exit *configuration* from serial, write value 6 (command 16).

# 4 FUNCTIONS

## 4.1 "Black Box"

Function used to record machine operation status in a non-volatile memory in case of an event.

| Label | *Modbus* address [DEC] | Black Box" *parameters*" | Description |
|---|---|---|---|
| Cm16 | 39952 | Enable *"Black Box"* | Enable recording<br>0 = disabled<br>1 = enabled |
| Cm17 | 39953 | Black Box" samples delay" | |
| Cm18 | 39954 | Black Box" samples interval" | |

The *"Black Box"* Function stores the machine status in case of an event.
Events that cause the collection or record to be stored in non-volatile memory are as follows:

- manual reset alarm;
- a bounded-type alarm changes from automatic to manual.

When a new event is being diagnosed, any other event is ignored until the collection has been stored.
Each save comprises a number of samples (equal to 20) taken with a frequency and a delay after the event defined by the *parameters* Cm17, Cm18.

### 4.1.1 Read "Black Box"

To read a "Black Box" event (or a collection of data saved by the above-mentioned function), *Modbus* protocol command 20 is used; instructions on how to *use* this command in the Energy XT application are provided below.

This command will read an entire data file; the data of several files in the same frame cannot be requested.

**Black Box" reading frame structure"**

| | Byte Size | Value (Hex) | Description |
|---|---|---|---|
| Function Code | 1 | 20 (0x14) | Fixed value indicating the *modbus* command |
| Byte Count | 1 | 7 | Fixed Value |
| Reference type | 1 | 6 | Fixed value |
| File Number | 2 | 0...N_COLL | Code of Black Box Collection to be downloaded<br>0 = Collection in RAM<br>i = n'th collection in Flash<br><br>If N_COLL =1 downloading the oldest Collection is requested, therefore going towards more recent Collections as the N_COLL increases |
| Record Number | 2 | 0...N_REC | Black Box record index:<br>0=reading of first record (synchronisation)<br>1...N_REC=reading of subsequent records |
| Record Length | 2 | 61 (3D) | Fixed value equal to the Record size in words |

**NOTE:** The first frame must have Record Number = 0 so that Energy XT can go to (synchronise) the first record of the file (of the selected Collection). Subsequent frames will have Record Numbers different from 0 indicating that resynchronisation is not required and that other records of the Collection can be sent (for any value, provided it is different from 0: by way of example, reading subsequent records of the same file could be an increasing number).
If the Record Number is set at 0 during a download in progress, XT goes to the first record of the selected Collection.

**Response frame structure**

| | Byte Size | Value (Hex) | Description |
|---|---|---|---|
| Function Code | 1 | 20 (0x14) | Fixed value indicating the *modbus* command |
| Data Length | 1 | 124 (0x7C) | Fixed Value |
| Sub-Req. X file resp. Length | 1 | 123 (0x7B) | Fixed value |
| Sub-Req. X file Reference Type | 1 | 6 | Fixed value |
| Sub-Req. X record data Type | 122 | | Data of record requested by sending the read frame (command 20) * |

The following table describes the structure of the data contained in the last field given in the previous table (last field of the response frame)

| | | |
|---|---|---|
| 1st byte | LEN | Number of data bytes actually belonging to the downloaded record, starting from the third byte.<br>Subsequent data items are meaningless and therefore must not be considered |
| 2nd byte | Code | 0x00=End of Collection download<br>0x01=Good data, continue download<br>0xFB=No synchronisation<br>0xFC=Buffer tx not available (download in progress on other serial)<br>0xFD=Element read error<br>0xFE=Collection does not exist<br>0xFF=Collection empty |
| 3rd byte | | 1st data item of record |
| ... | | .... |
| 122nd byte | | 120th data item of record |

## 4.2 Alarm History

System and regulation alarms generated are saved in a non-volatile FIFA memory queue that holds up to 99 elements.
New alarms generated are immediately entered in the *alarm history*.
When the queue reaches 99 elements, new alarms will erase data for the oldest alarm.
The following data is stored for each alarm:

- alarm activation date and time in C-standard (long 32 bit) format;
- area is index of the alarm (refer to. *Parameters* section);
- Hourly frequency, i.e. number of times the alarm was generated during the hour (max. 32);
- Identification for system or regulation alarm;

If the alarm has already been recorded in the *alarm history*, it occurred in the same hour, and the hourly frequency is less than 32, the hourly frequency is increased.

| ***Modbus* address [DEC]** | ***Read Alarm History*** | **Description** |
|---|---|---|
| 37120 | *Alarm history* info : number of alarms present | |
| 37121 | *Alarm history* info : index of first alarm | |
| 37122 | *Alarm history* info : index of last alarm | |

### 4.2.1 Read Alarm History

To read the *alarm history* (or one of the elements saved with this function), *Modbus* protocol command 20 is used; instructions on how to *use* this command in the Energy XT application are provided below.

**Alarm History reading frame structure**

| | **Byte Size** | **Value (Hex)** | **Description** |
|---|---|---|---|
| Function Code | 1 | 20 (0x14) | Fixed value indicating the *modbus* command |
| Byte Count | 1 | 7 | Fixed Value |
| Reference type | 1 | 6 | Fixed value |
| File Number | 2 | 100 | *Alarm History* code |
| Record Number | 2 | 0...N_ELEM | *Alarm History* element index:<br>0=give me the first one (Synchronisation)<br>otherwise=give me the following ones |
| Record Length | 2 | 4 | Fixed value equal to the Record size in words |

**NOTE:** The first frame must have the Record Number = 0 so that Energy XT can go to the beginning of the *alarm history* list (oldest alarm). Subsequent frames will have Record Numbers different from 0 (any value, as long as it is different from 0: by way of example, reading subsequent records of the same file could be an increasing number) to indicate that synchronization is not requested and that other elements in the *alarm history* list can be sent (always the most recent ones).

If the Record Number is set at 0 during a download in progress, XT goes to the oldest alarm at that moment.

**Response frame structure**

| | Byte Size | Value (Hex) | Description |
|---|---|---|---|
| Function Code | 1 | 20 (0x14) | Fixed value indicating the *modbus* command |
| Data Length | 1 | 10 (0x0A) | Fixed Value |
| Sub-Req. X file resp. Length | 1 | 9 | Fixed value |
| Sub-Req. X file Reference Type | 1 | 6 | Fixed value |
| Sub-Req. X record data Type | 8 | | Data of record requested by sending the read frame (command 20) |

| Byte no | Description |
|---|---|
| 1 | Alarm Number (decreasing) |
| 2-3-4-5 | Information on Day, Month, Year, Time coded according to standard "C" |
| 6 | Alarm code : Part 1 |
| 7 | Alarm code : Part 2 |
| 8 | Number of alarms in one hour |

**NOTE:** When responding to the request for the first element in the *alarm history* and the list is empty, the alarm number is 0xFF and the remaining data items are 0; on reaching the end of the list, the alarm number is 0 and the remaining data items are 0. While downloading, the alarm number is decreasing: starting from N (max. 99) which is the oldest element up to 1, the most recent element in the *alarm history*, or 0 if it is the last element (with all the remaining data 0). The response to the request for a history element without initial synchronisation has the value 0xFB in the Alarm Number field and all the other data items are 0. If a history element (not the first) is requested after the history has been completely read (alarm number 0), the response alarm number field will always be 0xFB and all the other data of the frame 0.

**IMPORTANT: The colour of the ADDRESS column indicates addresses belonging to the same area.**
**Important: the relation between parameter descriptions and the associated string in Wizard are listed in the parameter table in the Energy XT Regulators manual.**

# 5 TABLE OF PARAMETERS

**IMPORTANT: The colour of the ADDRESS column indicates addresses belonging to the same area.**
**Important: the relation between parameter descriptions and the associated string in Wizard are listed in the parameter table in the Energy XT Regulators manual.**

**Uart configuration parameters**

| INDEX | LABEL | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Cm05** | **39175** | | Eliwell Password | WORD | Y | 0 ... 10 | | 0 | String |
| 2 | **Cm06** | **39172** | | Read Password | WORD | Y | 0 ... 10 | | 0 | String |
| 3 | **Cm07** | **39173** | | User Password | WORD | Y | 0 ... 10 | | 0 | String |
| 4 | **Cm08** | **39174** | | Admin Password | WORD | Y | 0 ... 10 | | 0 | String |
| 188 | **Cm01** | **39168** | | FAA Address | WORD | Y | 0 ... 14 | 0 | 0 | num |
| 189 | **Cm02** | **39169** | | VIS MOD | WORD | Y | -32768 ... 32768 | 1025 | 0 | num |
| 190 | **Cm03** | **39170** | | PCH | WORD | Y | -32768 ... 32768 | 7 | 0 | num |
| 191 | **Cm04** | **39171** | | CRC | WORD | Y | 0 ... 20 | | 0 | String |
| 192 | **Cm09** | **39176** | | Modem Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 193 | **Cm10** | **39177** | | Init String (1st part) | WORD | Y | 0 ... 20 | AT&F&C1&D2X1E0S0=0 | 0 | String |
| 194 | **Cm11** | **39178** | | Init String (2nd part) | WORD | Y | 0 ... 20 | | 0 | String |
| 195 | **Cm12** | **39179** | | HangUp String | WORD | Y | 0 ... 20 | ATH0 | 0 | String |
| 196 | **Cm13** | **39180** | | Phone Number (to dial) | WORD | Y | 0 ... 20 | | 0 | String |
| 197 | **Cm14** | **39181** | | BLACK BOX Memory Full Call Enable Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 198 | **Cm15** | **39182** | | Manual Alarms Call Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 199 | **Cm16** | **39183** | | Automatic Alarms Call Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 200 | **Cm17** | **39184** | | Bounded Alarms Call Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 201 | **Cm18** | **39185** | | System Alarms Call Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 202 | **Cm19** | **39186** | | Daily Call Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 203 | **Cm20** | **39187** | | Number or Retries | WORD | Y | 1 ... 10 | 3 | 0 | num |
| 204 | **Cm21** | **39188** | | Delay on Retry | WORD | Y | 1 ... 100 | 10 | 0 | min |
| 205 | **Cm22** | **39189** | | Daily Call Time (Hour) | WORD | Y | 0 ... 23 | 0 | 0 | num |
| 206 | **Cm23** | **39190** | | Daily Call Time (Min) | WORD | Y | 0 ... 59 | 0 | 0 | num |
| 207 | **Cm24** | **39191** | | *COM1* Protocol Type | WORD | Y | 2 ... 3 | 2 | 0 | num |
| 208 | **Cm25** | **39192** | | *COM1* Baud Rate | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 209 | **Cm26** | **39193** | | *COM1* parity | WORD | Y | 0 ... 2 | 1 | 0 | num |
| 210 | **Cm27** | **39194** | | COM2 Protocol type | WORD | Y | 0 ... 5 | 0 | 0 | num |
| 211 | **Cm28** | **39195** | | COM2 Baud Rate | WORD | Y | 0 ... 2 | 1 | 0 | num |
| 212 | **Cm29** | **39196** | | COM2 Parity | WORD | Y | 0 ... 2 | 2 | 0 | num |
| 213 | **Cm30** | **39197** | | COM2 Data Length | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 214 | **Cm31** | **39198** | | COM2 RTS disenable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Configuration Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 | **Cg01** | **39936** | | Main Board digital Inputs Low Voltage | WORD | Y | 1 … 14 | 14 | 0 | num |
| 6 | **Cg02** | **39937** | | Main Board digital Inputs High Voltage | WORD | Y | 0 … 4 | 0 | 0 | num |
| 7 | **Cg03** | **39938** | | Main Board digital Inputs Mixed High/Low | WORD | Y | 0 … 1 | 0 | 0 | num |
| 8 | **Cg04** | **39939** | | Language | WORD | Y | 0 … 1 | 0 | 0 | num |
| 9 | **Cg05** | **39940** | | RTC Enable | WORD | Y | 0 … 1 | 1 | 0 | flag |
| 10 | **Cg06** | **39941** | | On Off Remote Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 11 | **Cg07** | **39942** | | Machine Reversal Remote Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 12 | **Cg08** | **39943** | | Events Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 13 | **Cg08** | **39944** | | Events Type | WORD | Y | 0 … 2 | 0 | 0 | num |
| 14 | **Cg09** | **39945** | | Menu Timeout | WORD | Y | 10 … 1000 | 120 | 0 | sec |
| 15 | **Cg10** | **39946** | | Plant Mode Manual | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 16 | **Cg11** | **39947** | | Config Password | WORD | Y | 0 … 5 | AAAAA | 0 | String |
| 17 | **Cg12** | **39948** | | Partialization Mode | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 18 | **Cg13** | **39949** | | Dynamic I/O Allocation | WORD | Y | 0 … 1 | 1 | 0 | num |
| 19 | **Cg14** | **39950** | | User ID (1st Part) | WORD | Y | 0 … 20 | | 0 | String |
| 20 | **Cg15** | **39951** | | User ID (2nd Part) | WORD | Y | 0 … 20 | | 0 | String |
| 21 | **Cg16** | **39952** | | BLACK BOX Enable | WORD | Y | 0 … 1 | 1 | 0 | num |
| 22 | **Cg17** | **39953** | | BLACK BOX Delay | WORD | Y | 0 … 20 | 0 | 0 | num |
| 23 | **Cg18** | **39954** | | BLACK BOX Time Between Samples | WORD | Y | 30 … 250 | 30 | 0 | sec |
| 24 | **Cg19** | **39955** | | Delta Start T1 | WORD | Y | 1 … 600 | 10 | -1 | sec |
| 25 | **Cg20** | **39956** | | Delta Start T2 | WORD | Y | 50 … 250 | 50 | 0 | num |

**Main Board Configuration Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | Bc01 | **40192** | | Main Board (MB) Type | WORD | Y | 0 … 4 | 0 | 0 | num |
| 27 | Bc02 | **40193** | | Main Board (MB) Enabling | WORD | Y | 0 … 1 | 0 | 0 | num |
| 28 | Bc03 | **40194** | | Main Board (MB) UT | WORD | Y | 0 … 1 | 0 | 0 | num |
| 29 | Bc04 | **40195** | | (MB) Probes AI1…AI4 Type | WORD | Y | 0 … 2 | 0 | 0 | num |
| 30 | Bc05 | **40196** | | (MB) Probes AI5 AI6 Type | WORD | Y | 0 … 3 | 3 | 0 | num |
| 31 | Bc06 | **40197** | | (MB) Probes AI7 AI8 Type | WORD | Y | 0 … 3 | 3 | 0 | num |
| 32 | Bc07 | **40198** | | (MB) Offset Probe AI1 | WORD | Y | -100 … 100 | 0 | -1 | num |
| 33 | Bc08 | **40199** | | (MB) Offset Probe AI2 | WORD | Y | -100 … 100 | 0 | -1 | num |
| 34 | Bc09 | **40200** | | (MB) Offset Probe AI3 | WORD | Y | -100 … 100 | 0 | -1 | num |
| 35 | Bc10 | **40201** | | (MB) Offset Probe AI4 | WORD | Y | -100 … 100 | 0 | -1 | num |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 36 | Bc11 | **40202** | | (MB) Offset Probe AI5 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 37 | Bc12 | **40203** | | (MB) Offset Probe AI6 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 38 | Bc13 | **40204** | | (MB) Offset Probe AI7 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 39 | Bc14 | **40205** | | (MB) Offset Probe AI8 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 40 | Bc15 | **40206** | | (MB) Pressure Value 4mA Probe AI5 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 41 | Bc16 | **40207** | | (MB) Pressure Value 20mA Probe AI5 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 42 | Bc17 | **40208** | | (MB) Pressure Value 4mA Probe AI6 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 43 | Bc18 | **40209** | | (MB) Pressure Value 20mA Probe AI6 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 44 | Bc19 | **40210** | | (MB) Pressure Value 4mA Probe AI7 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 45 | Bc20 | **40211** | | (MB) Pressure Value 20mA Probe AI7 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 46 | Bc21 | **40212** | | (MB) Pressure Value 4mA Probe AI8 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 47 | Bc22 | **40213** | | (MB) Pressure Value 20mA Probe AI8 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |

**Expansions Configuration Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 48 | X001 | **40448** | | Internal Expansion (IE) Type | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 49 | X002 | **40449** | | Internal Expansion (IE) Enabling | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 50 | X003 | **40450** | | Internal Expansion (IE) UT | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 51 | X004 | **40451** | | (IE) Probes AI13...AI6 Type | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 52 | X005 | **40452** | | (IE) Probes AI9 AI10 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 53 | X006 | **40453** | | (IE) Probes AI11 AI12 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 54 | X007 | **40454** | | (IE) Offset Probe AI13 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 55 | X008 | **40455** | | (IE) Offset Probe AI14 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 56 | X009 | **40456** | | (IE) Offset Probe AI15 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 57 | X010 | **40457** | | (IE) Offset Probe AI16 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 58 | X011 | **40458** | | (IE) Offset Probe AI9 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 59 | X012 | **40459** | | (IE) Offset Probe AI10 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 60 | X013 | **40460** | | (IE) Offset Probe AI11 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 61 | X014 | **40461** | | (IE) Offset Probe AI12 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 62 | X015 | **40462** | | (IE) Pressure Value 4mA Probe AI9 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 63 | X016 | **40463** | | (IE) Pressure Value 20mA Probe AI9 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 64 | X017 | **40464** | | (IE) Pressure Value 4mA Probe AI10 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 65 | X018 | **40465** | | (IE) Pressure Value 20mA Probe AI10 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 66 | X019 | **40466** | | (IE) Pressure Value 4mA Probe AI11 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 67 | X020 | **40467** | | (IE) Pressure Value 20mA Probe AI11 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 68 | X021 | **40468** | | (IE) Pressure Value 4mA Probe AI12 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 69 | X022 | **40469** | | (IE) Pressure Value 20mA Probe AI12 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 70 | X101 | **40704** | | Expansion #1 (Exp #1) Type | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 71 | X102 | **40705** | | Expansion #1 (Exp #1) Enabling | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 72 | X103 | **40706** | | Expansion #1 (Exp #1) UT | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 73 | X104 | **40707** | | (Exp #1) Probes AI1...AI4 Type DUMMY | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 74 | X105 | **40708** | | (Exp #1) Probes AI1 AI2 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 75 | X106 | **40709** | | (Exp #1) Probes AI3 AI4 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 76 | X107 | **40710** | | (Exp #1) Offset Probe AI1 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 77 | X108 | **40711** | | (Exp #1) Offset Probe AI2 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 78 | X109 | **40712** | | (Exp #1) Offset Probe AI3DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 79 | X110 | **40713** | | (Exp #1) Offset Probe AI4 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 80 | X111 | **40714** | | (Exp #1) Offset Probe AI1 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 81 | X112 | **40715** | | (Exp #1) Offset Probe AI2 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 82 | X113 | **40716** | | (Exp #1) Offset Probe AI3 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 83 | X114 | **40717** | | (Exp #1) Offset Probe AI4 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 84 | X115 | **40718** | | (Exp #1) Pressure Value 4mA Probe AI1 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 85 | X116 | **40719** | | (Exp #1) Pressure Value 20mA Probe AI1 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 86 | X117 | **40720** | | (Exp #1) Pressure Value 4mA Probe AI2 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 87 | X118 | **40721** | | (Exp #1) Pressure Value 20mA Probe AI2 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 88 | X119 | **40722** | | (Exp #1) Pressure Value 4mA Probe AI3 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 89 | X120 | **40723** | | (Exp #1) Pressure Value 20mA Probe AI3 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 90 | X121 | **40724** | | (Exp #1) Pressure Value 4mA Probe AI4 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 91 | X122 | **40725** | | (Exp #1) Pressure Value 20mA Probe AI4 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 92 | X201 | **40960** | | Expansion #2 (Exp #2) Type | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 93 | X202 | **40961** | | Expansion #2 (Exp #2) Enabling | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 94 | X203 | **40962** | | Expansion #2 (Exp #2) UT | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 95 | X204 | **40963** | | (Exp #2) Probes AI1...AI4 Type DUMMY | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 96 | X205 | **40964** | | (Exp #2) Probes AI1 AI2 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 97 | X206 | **40965** | | (Exp #2) Probes AI3 AI4 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 98 | X207 | **40966** | | (Exp #2) Offset Probe AI1 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 99 | X208 | **40967** | | (Exp #2) Offset Probe AI2 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 100 | X209 | **40968** | | (Exp #2) Offset Probe AI3DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 101 | X210 | **40969** | | (Exp #2) Offset Probe AI4 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 102 | X211 | **40970** | | (Exp #2) Offset Probe AI1 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 103 | X212 | **40971** | | (Exp #2) Offset Probe AI2 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 104 | X213 | **40972** | | (Exp #2) Offset Probe AI3 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 105 | X214 | **40973** | | (Exp #2) Offset Probe AI4 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 106 | X215 | **40974** | | (Exp #2) Pressure Value 4mA Probe AI1 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 107 | X216 | **40975** | | (Exp #2) Pressure Value 20mA Probe AI1 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 108 | X217 | **40976** | | (Exp #2) Pressure Value 4mA Probe AI2 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 109 | X218 | **40977** | | (Exp #2) Pressure Value 20mA Probe AI2 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 110 | X219 | **40978** | | (Exp #2) Pressure Value 4mA Probe AI3 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 111 | X220 | **40979** | | (Exp #2) Pressure Value 20mA Probe AI3 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 112 | X221 | **40980** | | (Exp #2) Pressure Value 4mA Probe AI4 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 113 | X222 | **40981** | | (Exp #2) Pressure Value 20mA Probe AI4 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 114 | X301 | **41216** | | Expansion #3 (Exp #3) Type | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 115 | X302 | **41217** | | Expansion #3 (Exp #3) Enabling | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 116 | X303 | **41218** | | Expansion #3 (Exp #3) UT | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 117 | X304 | **41219** | | (Exp #3) Probes AI1...AI4 Type DUMMY | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 118 | X305 | **41220** | | (Exp #3) Probes AI1 AI2 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 119 | X306 | **41221** | | (Exp #3) Probes AI3 AI4 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 120 | X307 | **41222** | | (Exp #3) Offset Probe AI1 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 121 | X308 | **41223** | | (Exp #3) Offset Probe AI2 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 122 | X309 | **41224** | | (Exp #3) Offset Probe AI3DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 123 | X310 | **41225** | | (Exp #3) Offset Probe AI4 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 124 | X311 | **41226** | | (Exp #3) Offset Probe AI1 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 125 | X312 | **41227** | | (Exp #3) Offset Probe AI2 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 126 | X313 | **41228** | | (Exp #3) Offset Probe AI3 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 127 | X314 | **41229** | | (Exp #3) Offset Probe AI4 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 128 | X315 | **41230** | | (Exp #3) Pressure Value 4mA Probe AI1 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 129 | X316 | **41231** | | (Exp #3) Pressure Value 20mA Probe AI1 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 130 | X317 | **41232** | | (Exp #3) Pressure Value 4mA Probe AI2 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 131 | X318 | **41233** | | (Exp #3) Pressure Value 20mA Probe AI2 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 132 | X319 | **41234** | | (Exp #3) Pressure Value 4mA Probe AI3 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 133 | X320 | **41235** | | (Exp #3) Pressure Value 20mA Probe AI3 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 134 | X321 | **41236** | | (Exp #3) Pressure Value 4mA Probe AI4 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 135 | X322 | **41237** | | (Exp #3) Pressure Value 20mA Probe AI4 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 136 | X401 | **41472** | | Expansion #4 (Exp #4) Type | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 137 | X402 | **41473** | | Expansion #4 (Exp #4) Enabling | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 138 | X403 | **41474** | | Expansion #4 (Exp #4) UT | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 139 | X404 | **41475** | | (Exp #4) Probes AI1...AI4 Type DUMMY | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 140 | X405 | **41476** | | (Exp #4) Probes AI1 AI2 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 141 | X406 | **41477** | | (Exp #4) Probes AI3 AI4 Type | WORD | Y | 0 ... 3 | 3 | 0 | num |
| 142 | X407 | **41478** | | (Exp #4) Offset Probe AI1 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 143 | X408 | **41479** | | (Exp #4) Offset Probe AI2 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 144 | X409 | **41480** | | (Exp #4) Offset Probe AI3DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 145 | X410 | **41481** | | (Exp #4) Offset Probe AI4 DUMMY | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 146 | X411 | **41482** | | (Exp #4) Offset Probe AI1 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 147 | X412 | **41483** | | (Exp #4) Offset Probe AI2 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 148 | X413 | **41484** | | (Exp #4) Offset Probe AI3 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 149 | X414 | **41485** | | (Exp #4) Offset Probe AI4 | WORD | Y | -100 ... 100 | 0 | -1 | num |
| 150 | X415 | **41486** | | (Exp #4) Pressure Value 4mA Probe AI1 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 151 | X416 | **41487** | | (Exp #4) Pressure Value 20mA Probe AI1 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 152 | X417 | **41488** | | (Exp #4) Pressure Value 4mA Probe AI2 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 153 | X418 | **41489** | | (Exp #4) Pressure Value 20mA Probe AI2 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 154 | X419 | **41490** | | (Exp #4) Pressure Value 4mA Probe AI3 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 155 | X420 | **41491** | | (Exp #4) Pressure Value 20mA Probe AI3 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |
| 156 | X421 | **41492** | | (Exp #4) Pressure Value 4mA Probe AI4 | WORD | Y | -10 ... 10 | 0 | -1 | Bar |
| 157 | X422 | **41493** | | (Exp #4) Pressure Value 20mA Probe AI4 | WORD | Y | 10 ... 1000 | 300 | -1 | Bar |

**Events Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 215 | **H001** | **43008** | | Monday Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 216 | **H002** | **43009** | | Monday Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 217 | **H003** | **43010** | | Monday Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 218 | **H004** | **43011** | | Monday Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 219 | **H005** | **43012** | | Monday Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 220 | **H006** | **43013** | | Monday Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 221 | **H007** | **43014** | | Monday Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 222 | **H008** | **43015** | | Monday Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 223 | **H008** | **43016** | | Monday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 224 | **H009** | **43017** | | Monday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 225 | **H010** | **43018** | | Monday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 226 | **H011** | **43019** | | Monday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 227 | **H012** | **43020** | | Monday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 228 | **H013** | **43021** | | Monday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 229 | **H014** | **43022** | | Monday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 230 | **H015** | **43023** | | Monday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 231 | **H016** | **43024** | | Monday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 232 | **H017** | **43025** | | Monday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 233 | **H018** | **43026** | | Monday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 234 | **H019** | **43027** | | Monday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 235 | **H020** | **43028** | | Monday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 236 | **H021** | **43029** | | Monday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 237 | **H022** | **43030** | | Monday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 238 | **H023** | **43031** | | Monday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 239 | **H101** | **43264** | | Tuesday Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 240 | **H102** | **43265** | | Tuesday Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 241 | **H103** | **43266** | | Tuesday Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 242 | **H104** | **43267** | | Tuesday Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 243 | **H105** | **43268** | | Tuesday Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 244 | **H106** | **43269** | | Tuesday Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 245 | **H107** | **43270** | | Tuesday Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 246 | **H108** | **43271** | | Tuesday Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 247 | **H109** | **43272** | | Tuesday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 248 | **H110** | **43273** | | Tuesday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 249 | **H111** | **43274** | | Tuesday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 250 | **H112** | **43275** | | Tuesday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 251 | **H113** | **43276** | | Tuesday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 252 | **H114** | **43277** | | Tuesday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 253 | **H115** | **43278** | | Tuesday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 254 | **H116** | **43279** | | Tuesday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 255 | **H117** | **43280** | | Tuesday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 256 | **H118** | **43281** | | Tuesday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 257 | **H119** | **43282** | | Tuesday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 258 | **H120** | **43283** | | Tuesday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 259 | **H121** | **43284** | | Tuesday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 260 | **H122** | **43285** | | Tuesday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 261 | **H123** | **43286** | | Tuesday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 262 | **H124** | **43287** | | Tuesday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 263 | **H201** | **43520** | | Wednesday Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 264 | **H202** | **43521** | | Wednesday Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 265 | **H203** | **43522** | | Wednesday Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 266 | **H204** | **43523** | | Wednesday Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 267 | **H205** | **43524** | | Wednesday Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 268 | **H206** | **43525** | | Wednesday Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 269 | **H207** | **43526** | | Wednesday Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 270 | **H208** | **43527** | | Wednesday Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 271 | **H209** | **43528** | | Wednesday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 272 | **H210** | **43529** | | Wednesday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 273 | **H211** | **43530** | | Wednesday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 274 | **H212** | **43531** | | Wednesday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 275 | **H213** | **43532** | | Wednesday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 276 | **H214** | **43533** | | Wednesday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 277 | **H215** | **43534** | | Wednesday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 278 | **H216** | **43535** | | Wednesday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 279 | **H217** | **43536** | | Wednesday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 280 | **H218** | **43537** | | Wednesday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 281 | **H219** | **43538** | | Wednesday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 282 | **H220** | **43539** | | Wednesday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 283 | **H221** | **43540** | | Wednesday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 284 | **H222** | **43541** | | Wednesday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 285 | **H223** | **43542** | | Wednesday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 286 | **H224** | **43543** | | Wednesday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 287 | **H301** | **43776** | | Thursday Event #1 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 288 | **H302** | **43777** | | Thursday Event #1 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |
| 289 | **H303** | **43778** | | Thursday Event #1 Min | WORD | Y | 0 … 59 | 0 | 0 | min |
| 290 | **H304** | **43779** | | Thursday Event #1 Mode | WORD | Y | 0 … 4 | 0 | 0 | num |
| 291 | **H305** | **43780** | | Thursday Event #1 Chiller set Temp | WORD | Y | -500 … 500 | 70 | -1 | °C/°F |
| 292 | **H306** | **43781** | | Thursday Event #1 HeatPump set Temp | WORD | Y | -500 … 1500 | 400 | -1 | °C/°F |
| 293 | **H307** | **43782** | | Thursday Event #2 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 294 | **H308** | **43783** | | Thursday Event #2 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |
| 295 | **H309** | **43784** | | Thursday Event #2 Min | WORD | Y | 0 … 59 | 0 | 0 | min |
| 296 | **H310** | **43785** | | Thursday Event #2 Mode | WORD | Y | 0 … 4 | 0 | 0 | num |
| 297 | **H311** | **43786** | | Thursday Event #2 Chiller set Temp | WORD | Y | -500 … 500 | 70 | -1 | °C/°F |
| 298 | **H312** | **43787** | | Thursday Event #2 HeatPump set Temp | WORD | Y | -500 … 1500 | 400 | -1 | °C/°F |
| 299 | **H313** | **43788** | | Thursday Event #3 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 300 | **H314** | **43789** | | Thursday Event #3 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |
| 301 | **H315** | **43790** | | Thursday Event #3 Min | WORD | Y | 0 … 59 | 0 | 0 | min |
| 302 | **H316** | **43791** | | Thursday Event #3 Mode | WORD | Y | 0 … 4 | 0 | 0 | num |
| 303 | **H317** | **43792** | | Thursday Event #3 Chiller set Temp | WORD | Y | -500 … 500 | 70 | -1 | °C/°F |
| 304 | **H318** | **43793** | | Thursday Event #3 HeatPump set Temp | WORD | Y | -500 … 1500 | 400 | -1 | °C/°F |
| 305 | **H319** | **43794** | | Thursday Event #4 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 306 | **H320** | **43795** | | Thursday Event #4 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |
| 307 | **H321** | **43796** | | Thursday Event #4 Min | WORD | Y | 0 … 59 | 0 | 0 | min |
| 308 | **H322** | **43797** | | Thursday Event #4 Mode | WORD | Y | 0 … 4 | 0 | 0 | num |
| 309 | **H323** | **43798** | | Thursday Event #4 Chiller set Temp | WORD | Y | -500 … 500 | 70 | -1 | °C/°F |
| 310 | **H324** | **43799** | | Thursday Event #4 HeatPump set Temp | WORD | Y | -500 … 1500 | 400 | -1 | °C/°F |
| 311 | **H401** | **44032** | | Friday Event #1 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 312 | **H402** | **44033** | | Friday Event #1 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |
| 313 | **H403** | **44034** | | Friday Event #1 Min | WORD | Y | 0 … 59 | 0 | 0 | min |
| 314 | **H404** | **44035** | | Friday Event #1 Mode | WORD | Y | 0 … 4 | 0 | 0 | num |
| 315 | **H405** | **44036** | | Friday Event #1 Chiller set Temp | WORD | Y | -500 … 500 | 70 | -1 | °C/°F |
| 316 | **H406** | **44037** | | Friday Event #1 HeatPump set Temp | WORD | Y | -500 … 1500 | 400 | -1 | °C/°F |
| 317 | **H407** | **44038** | | Friday Event #2 Enable | WORD | Y | 0 … 1 | 0 | 0 | flag |
| 318 | **H408** | **44039** | | Friday Event #2 Hour | WORD | Y | 0 … 23 | 0 | 0 | ore |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 319 | **H409** | **44040** | | Friday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 320 | **H410** | **44041** | | Friday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 321 | **H411** | **44042** | | Friday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 322 | **H412** | **44043** | | Friday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 323 | **H413** | **44044** | | Friday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 324 | **H414** | **44045** | | Friday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 325 | **H415** | **44046** | | Friday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 326 | **H416** | **44047** | | Friday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 327 | **H417** | **44048** | | Friday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 328 | **H418** | **44049** | | Friday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 329 | **H419** | **44050** | | Friday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 330 | **H420** | **44051** | | Friday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 331 | **H421** | **44052** | | Friday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 332 | **H422** | **44053** | | Friday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 333 | **H423** | **44054** | | Friday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 334 | **H424** | **44055** | | Friday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 335 | **H501** | **44288** | | Saturday Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 336 | **H502** | **44289** | | Saturday Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 337 | **H503** | **44290** | | Saturday Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 338 | **H504** | **44291** | | Saturday Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 339 | **H505** | **44292** | | Saturday Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 340 | **H506** | **44293** | | Saturday Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 341 | **H507** | **44294** | | Saturday Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 342 | **H508** | **44295** | | Saturday Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 343 | **H509** | **44296** | | Saturday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 344 | **H510** | **44297** | | Saturday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 345 | **H511** | **44298** | | Saturday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 346 | **H512** | **44299** | | Saturday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 347 | **H513** | **44300** | | Saturday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 348 | **H514** | **44301** | | Saturday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 349 | **H515** | **44302** | | Saturday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 350 | **H516** | **44303** | | Saturday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 351 | **H517** | **44304** | | Saturday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 352 | **H518** | **44305** | | Saturday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 353 | **H519** | **44306** | | Saturday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 354 | **H520** | **44307** | | Saturday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 355 | **H521** | **44308** | | Saturday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 356 | **H522** | **44309** | | Saturday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 357 | **H523** | **44310** | | Saturday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 358 | **H524** | **44311** | | Saturday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 359 | **H601** | **44544** | | Sunday Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 360 | **H602** | **44545** | | Sunday Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 361 | **H603** | **44546** | | Sunday Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 362 | **H604** | **44547** | | Sunday Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 363 | **H605** | **44548** | | Sunday Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 364 | **H606** | **44549** | | Sunday Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 365 | **H607** | **44550** | | Sunday Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 366 | **H608** | **44551** | | Sunday Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 367 | **H609** | **44552** | | Sunday Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 368 | **H610** | **44553** | | Sunday Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 369 | **H611** | **44554** | | Sunday Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 370 | **H612** | **44555** | | Sunday Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 371 | **H613** | **44556** | | Sunday Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 372 | **H614** | **44557** | | Sunday Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 373 | **H615** | **44558** | | Sunday Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 374 | **H616** | **44559** | | Sunday Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 375 | **H617** | **44560** | | Sunday Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 376 | **H618** | **44561** | | Sunday Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 377 | **H619** | **44562** | | Sunday Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 378 | **H620** | **44563** | | Sunday Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 379 | **H621** | **44564** | | Sunday Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 380 | **H622** | **44565** | | Sunday Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 381 | **H623** | **44566** | | Sunday Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 382 | **H624** | **44567** | | Sunday Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

**Mon-Fri Event Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 383 | **Hw01** | **44800** | | Mon-Fri Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 384 | **Hw02** | **44801** | | Mon-Fri Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 385 | **Hw03** | **44802** | | Mon-Fri Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 386 | **Hw04** | **44803** | | Mon-Fri Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 387 | **Hw05** | **44804** | | Mon-Fri Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 388 | **Hw06** | **44805** | | Mon-Fri Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 389 | **Hw07** | **44806** | | Mon-Fri Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 390 | **Hw08** | **44807** | | Mon-Fri Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 391 | **Hw09** | **44808** | | Mon-Fri Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 392 | **Hw10** | **44809** | | Mon-Fri Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 393 | **Hw11** | **44810** | | Mon-Fri Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 394 | **Hw12** | **44811** | | Mon-Fri Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 395 | **Hw13** | **44812** | | Mon-Fri Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 396 | **Hw14** | **44813** | | Mon-Fri Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 397 | **Hw15** | **44814** | | Mon-Fri Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 398 | **Hw16** | **44815** | | Mon-Fri Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 399 | **Hw17** | **44816** | | Mon-Fri Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 400 | **Hw18** | **44817** | | Mon-Fri Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 401 | **Hw19** | **44818** | | Mon-Fri Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 402 | **Hw20** | **44819** | | Mon-Fri Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 403 | **Hw21** | **44820** | | Mon-Fri Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 404 | **Hw22** | **44821** | | Mon-Fri Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 405 | **Hw23** | **44822** | | Mon-Fri Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 406 | **Hw24** | **44823** | | Mon-Fri Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

**Sat-Sun Event Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 407 | Hm01 | **45056** | | Sat-Sun Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 408 | Hm02 | **45057** | | Sat-Sun Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 409 | Hm03 | **45058** | | Sat-Sun Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 410 | Hm04 | **45059** | | Sat-Sun Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 411 | Hm05 | **45060** | | Sat-Sun Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 412 | Hm06 | **45061** | | Sat-Sun Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 413 | Hm07 | **45062** | | Sat-Sun Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 414 | Hm08 | **45063** | | Sat-Sun Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 415 | Hm09 | **45064** | | Sat-Sun Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 416 | Hm10 | **45065** | | Sat-Sun Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 417 | Hm11 | **45066** | | Sat-Sun Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 418 | Hm12 | **45067** | | Sat-Sun Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 419 | Hm13 | **45068** | | Sat-Sun Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 420 | Hm14 | **45069** | | Sat-Sun Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 421 | Hm15 | **45070** | | Sat-Sun Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 422 | Hm16 | **45071** | | Sat-Sun Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 423 | Hm17 | **45072** | | Sat-Sun Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 424 | Hm18 | **45073** | | Sat-Sun Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 425 | Hm19 | **45074** | | Sat-Sun Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 426 | Hm20 | **45075** | | Sat-Sun Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 427 | Hm21 | **45076** | | Sat-Sun Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 428 | Hm22 | **45077** | | Sat-Sun Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 429 | Hm23 | **45078** | | Sat-Sun Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 430 | Hm24 | **45079** | | Sat-Sun Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

**Weekly Event Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 431 | Hs01 | 45312 | | Week Event #1 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 432 | Hs02 | 45313 | | Week Event #1 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 433 | Hs03 | 45314 | | Week Event #1 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 434 | Hs04 | 45315 | | Week Event #1 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 435 | Hs05 | 45316 | | Week Event #1 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 436 | Hs06 | 45317 | | Week Event #1 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 437 | Hs07 | 45318 | | Week Event #2 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 438 | Hs08 | 45319 | | Week Event #2 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 439 | Hs09 | 45320 | | Week Event #2 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 440 | Hs10 | 45321 | | Week Event #2 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 441 | Hs11 | 45322 | | Week Event #2 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 442 | Hs12 | 45323 | | Week Event #2 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 443 | Hs13 | 45324 | | Week Event #3 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 444 | Hs14 | 45325 | | Week Event #3 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 445 | Hs15 | 45326 | | Week Event #3 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 446 | Hs16 | 45327 | | Week Event #3 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 447 | Hs17 | 45328 | | Week Event #3 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 448 | Hs18 | 45329 | | Week Event #3 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 449 | Hs19 | 45330 | | Week Event #4 Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 450 | Hs20 | 45331 | | Week Event #4 Hour | WORD | Y | 0 ... 23 | 0 | 0 | ore |
| 451 | Hs21 | 45332 | | Week Event #4 Min | WORD | Y | 0 ... 59 | 0 | 0 | min |
| 452 | Hs22 | 45333 | | Week Event #4 Mode | WORD | Y | 0 ... 4 | 0 | 0 | num |
| 453 | Hs23 | 45334 | | Week Event #4 Chiller set Temp | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |
| 454 | Hs24 | 45335 | | Week Event #4 HeatPump set Temp | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |

**System Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 455 | Sy01 | **45568** | | Evaporators Number | WORD | Y | P455 ... P456 | 1 | 0 | num |
| 456 | Sy02 | **45569** | | Evaporators Min Number | WORD | Y | 1 ... 4 | 1 | 0 | num |
| 457 | Sy03 | **45570** | | Evaporators MAX Number | WORD | Y | 1 ... 4 | 1 | 0 | num |
| 458 | Sy04 | **45571** | | Circuits Number | WORD | Y | P458 ... P459 | 2 | 0 | num |
| 459 | Sy05 | **45572** | | Circuits Min Number | WORD | Y | 1 ... 4 | 1 | 0 | num |
| 460 | Sy06 | **45573** | | Circuits MAX Number | WORD | Y | 1 ... 4 | 2 | 0 | num |
| 461 | Sy07 | **45574** | | Compressors Number | WORD | Y | P461 ... P462 | 1 | 0 | num |
| 462 | Sy08 | **45575** | | Compressors Min Number | WORD | Y | 1 ... 8 | 1 | 0 | num |
| 463 | Sy09 | **45576** | | Compressors MAX Number | WORD | Y | 1 ... 8 | 4 | 0 | num |
| 464 | Sy10 | **45577** | | Pumps Number | WORD | Y | 0 ... 2 | 1 | 0 | num |
| 465 | Sy11 | **45578** | | Plant Type | WORD | Y | 0 ... 2 | 2 | 0 | num |
| 466 | Sy12 | **45579** | | Pump Group Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 467 | Sy13 | **45580** | | Dynamic Tset External Temperature Sensor | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 468 | Sy14 | **45581** | | Dynamic Tset Current Sensor | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 469 | Sy15 | **45582** | | Machine Type | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 470 | Sy16 | **45583** | | Combine Condensation | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 471 | Sy17 | **45584** | | Number of Fans Groups | WORD | Y | P455 ... P454 | 1 | 0 | num |

**Pump-Down Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 472 | Pd01 | 45824 | | PumpDown: Min Pressure Set point | WORD | Y | 0 ... 500 | 0 | -1 | Bar |
| 473 | Pd02 | 45825 | | PumpDown: MAX Pressure Set Point | WORD | Y | 0 ... 500 | 0 | -1 | Bar |
| 474 | Pd03 | 45826 | | PumpDown: Off-On MAX Time | WORD | Y | 0 ... 30 | 6 | 0 | min |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 475 | Pd04 | 45827 | | PumpDown: On-Off MAX Time | WORD | Y | 0 ... 30 | 6 | 0 | min |
| 476 | Pd05 | 45828 | | PumpDown: Type | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 477 | Pd06 | 45829 | | PumpDown: Sensor T/P | WORD | Y | 0 ... 2 | 1 | 0 | num |
| 478 | Pd07 | 45830 | | PumpDown: Solenoid Valve Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 479 | Pd08 | 45831 | | PumpDown: Pressure Digital Input Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 480 | Pd09 | 45832 | | PumpDown: Soft Pump Down Algorithm Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Regulation Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 481 | St01 | **46080** | | Dynamic Tset: External Temp Set for Cooling | WORD | Y | -500 ... 1500 | 100 | -1 | °C/°F |
| 482 | St02 | **46081** | | Dynamic Tset: External Temp Set for Heating | WORD | Y | -500 ... 1500 | 300 | -1 | °C/°F |
| 483 | St03 | **46082** | | Dynamic Tset: Maximum Offset for Cooling | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 484 | St04 | **46083** | | Dynamic Tset: Maximum Offset for Heating | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 485 | St05 | **46084** | | Dynamic Tset: Delta Temp for Cooling | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 486 | St06 | **46085** | | Dynamic Tset: Delta Temp for Heating | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 487 | St07 | **46086** | | Dynamic Tset: Thermal Regulation Type | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 488 | St08 | **46087** | | Dynamic Tset: Thermal Regulation Sensor | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 489 | St09 | **46088** | | Dynamic Tset: Enable | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 490 | St10 | **46089** | | Temp Sensor Shared for Evaporators Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Free-Cooling Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 491 | Fc01 | 46336 | | FreeCooling: Differential | WORD | Y | 0 ... 200 | 30 | -1 | °C/°F |
| 492 | Fc02 | 46337 | | FreeCooling: Hysteresis | WORD | Y | 0 ... 200 | 0 | -1 | °C/°F |
| 493 | Fc03 | 46338 | | FreeCooling: Delay between 2 Freecooling | WORD | Y | 0 ... 500 | 60 | 0 | sec |
| 494 | Fc04 | 46339 | | FreeCooling: Sensor | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 495 | Fc05 | 46340 | | FreeCooling: Set Point Inc Time | WORD | Y | 1 ... 30 | 6 | 0 | min |
| 496 | Fc06 | 46341 | | FreeCooling: Proportional Band | WORD | Y | 30 ... 75 | 50 | 0 | num |
| 497 | Fc07 | 46342 | | FreeCooling: Pumps presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 498 | Fc08 | 46343 | | FreeCooling: Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Heat recovery Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 499 | Hr01 | **46592** | | Heat Recovery: Pressure Set Point | WORD | Y | 0 ... 300 | 230 | -1 | Bar |
| 500 | Hr02 | **46593** | | Heat Recovery: Pressure Hysteresis | WORD | Y | 0 ... 150 | 70 | -1 | Bar |
| 501 | Hr03 | **46594** | | Heat Recovery: Minimum Time | WORD | Y | 0 ... 10 | 5 | 0 | min |
| 502 | Hr04 | **46595** | | Heat Recovery: Bypass Time | WORD | Y | 0 ... 10 | 5 | 0 | min |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 503 | Hr05 | **46596** | | Heat Recovery: Cooling Min Time | WORD | Y | 0 ... 10 | 5 | 0 | min |
| 504 | Hr06 | **46597** | | Heat Recovery:Temp Set Point | WORD | Y | 0 ... 20 | 10 | 0 | °C/°F |
| 505 | Hr07 | **46598** | | Heat Recovery: Proportional Band | WORD | Y | 0 ... 40 | 10 | 0 | °C/°F |
| 506 | Hr08 | **46599** | | Heat Recovery: Sensor | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 507 | Hr09 | **46600** | | Heat Recovery: Flow Switch Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 508 | Hr10 | **46601** | | Heat Recovery: Pump Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 509 | Hr11 | **46602** | | Heat Recovery: Temperature Sensor Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 510 | Hr12 | **46603** | | Heat Recovery: Pressure Digital Input Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 511 | Hr13 | **46604** | | Heat Recovery: Three Way Valve Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 512 | Hr14 | **46605** | | Heat Recovery: Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Circuit Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 513 | **Cr01** | **46848** | | Cooling High Pressure Alarm Sensor Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 514 | **Cr02** | **46849** | | Cooling High Pressure Alarm Digital Input Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 515 | **Cr03** | **46850** | | Cooling Low Pressure Alarm Sensor Type | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 516 | **Cr04** | **46851** | | Cooling Low Pressure Alarm Digital Input Type | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Reversing Valve Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 517 | Rv01 | **47104** | | Reversing Valve Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Compressors Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 518 | Cp01 | 47360 | | Compressor: Discharge Alarm Temp Set Point | WORD | Y | 40 ... 150 | 125 | 0 | °C/°F |
| 519 | Cp02 | 47361 | | Compressor: OFF-ON compressor delay | WORD | Y | 0 ... 500 | 10 | 0 | sec |
| 520 | Cp03 | 47362 | | Compressor: ON-ON compressor delay | WORD | Y | 0 ... 500 | 10 | 0 | sec |
| 521 | Cp04 | 47363 | | Compressor: Swap Single Comp. On Max Time | WORD | Y | 0 ... 300 | 100 | 0 | ore |
| 522 | Cp05 | 47364 | | Compressor: MAX Time @ Partial Power | WORD | Y | 0 ... 300 | 5 | 0 | min |
| 523 | Cp06 | 47365 | | Compressor: Min Time @ Partial Power | WORD | Y | 0 ... 500 | 3 | 0 | sec |
| 524 | Cp07 | 47366 | | Compressor: Oil Press Differential Alarm Entry Time | WORD | Y | 0 ... 600 | 30 | 0 | sec |
| 525 | Cp08 | 47367 | | Compressor: Number Of Stage | WORD | Y | 0 ... 3 | 1 | 0 | num |
| 526 | Cp09 | 47368 | | Compressor: MAX Num Of Starts per Hour | WORD | Y | 0 ... 20 | 6 | 0 | num |
| 527 | Cp10 | 47369 | | Compressor: Min Delay Between Two Steps (ON-OFF) | WORD | Y | 0 ... 120 | 10 | 0 | sec |
| 528 | Cp11 | 47370 | | Compressor: Min Delay Between Two Steps (OFF-ON) | WORD | Y | 0 ... 120 | 10 | 0 | sec |
| 529 | Cp12 | 47371 | | Compressor: Discharge Temp Differential | WORD | Y | 0 ... 30 | 30 | 0 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 530 | Cp13 | 47372 | | Compressor: Oil Press Differential Alarm Set Point | WORD | Y | 0 ... 50 | 0 | -1 | Bar |
| 531 | Cp14 | 47373 | | Compressor: Discharge Temp Alarm Sensor Type | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 532 | Cp15 | 47374 | | Compressor: Thermal Alarm Digital Input Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 533 | Cp16 | 47375 | | Compressor: Oil Pressure Sensor Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 534 | Cp17 | 47376 | | Compressor: Starting Mode | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 535 | Cp18 | 47377 | | Compressor: Oil Pressure Digital Input Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 536 | Cp19 | 47378 | | Compressor: Enable Compressors Swap | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 537 | Cp20 | 47379 | | Compressor: Multistage Comp. Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 538 | Cp21 | 47380 | | Compressor: Discharge Temp Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 539 | Cp22 | 47381 | | Compressor: Differential Alarm Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 540 | Cp23 | 47382 | | Compressor: Thermal Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 541 | Cp24 | 47383 | | Compressor: Oil Pressure Digital Input Alarm Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 542 | Cp25 | 47384 | | Compressor: Liquid Injection Digital Output Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 543 | Cp26 | 47385 | | Compressor: Liquid Injection Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 544 | Cp27 | 47386 | | Compressor: Liquid Injection Temperature Set Point | WORD | Y | 0 ... 150 | 125 | 0 | °C/°F |
| 545 | Cp28 | 47387 | | Compressor: Liquid Injection Hysteresis | WORD | Y | 0 ... 1000 | 30 | -1 | °C/°F |

**Fans Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 546 | Fp01 | **47616** | | Fans: Number of Fans per Circuit | WORD | Y | Fp01 ... Fp02 | 3 | 0 | num |
| 547 | Fp02 | **47617** | | Fans: Min Number of Fans per Circuit | WORD | Y | 1 ... 8 | 1 | 0 | num |
| 548 | Fp03 | **47618** | | Fans: MAX Number of Fans per Circuit | WORD | Y | 1 ... 8 | 4 | 0 | num |
| 549 | Fp04 | **47619** | | Fans: Fans Type | WORD | Y | 0 ... 1 | 1 | 0 | num |
| 550 | Fp05 | **47620** | | Fans: Different Fans Managament Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 551 | Fp06 | **47621** | | Fans: Condenser Temperature Sensor Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 552 | Fp07 | **47622** | | Fans: Temperature Digital Input Dedicated for Fans Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 553 | Fp08 | **47623** | | Fans: Single Fans Alarm Input per Condenser Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 554 | Fp09 | **47624** | | Fans: Individually Fans Stop in Case of Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Anti Freeze Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 555 | Af01 | 47872 | | Antifreeze: Alarm Temp Set Point Cooling | WORD | Y | -50 ... 150 | 3 | 0 | °C/°F |
| 556 | Af02 | 47873 | | Antifreeze: Alarm Temp Set Point Heating | WORD | Y | -50 ... 150 | 3 | 0 | °C/°F |
| 557 | Af03 | 47874 | | Antifreeze: Temp Set Point Cooling | WORD | Y | -500 ... 1500 | 50 | -1 | °C/°F |
| 558 | Af04 | 47875 | | Antifreeze: Temp Set Point Heating | WORD | Y | -500 ... 1500 | 50 | -1 | °C/°F |
| 559 | Af05 | 47876 | | Antifreeze: Temp Hysteresis | WORD | Y | -500 ... 1500 | 20 | -1 | °C/°F |
| 560 | Af06 | 47877 | | Antifreeze: Alarm Bypass Cooling | WORD | Y | 0 ... 10000 | 0 | -1 | sec |
| 561 | Af07 | 47878 | | Antifreeze: Alarm Bypass Heating | WORD | Y | 0 ... 10000 | 3000 | -1 | sec |
| 562 | Af08 | 47879 | | Antifreeze: MAX Num of Automatic Alarms | WORD | Y | 0 ... 1000 | 3 | 0 | num |
| 563 | Af09 | 47880 | | Antifreeze: Alarm Temp Hysteresis Cooling | WORD | Y | 0 ... 10 | 4 | 0 | °C/°F |
| 564 | Af10 | 47881 | | Antifreeze: Alarm Temp Hysteresis Heating | WORD | Y | 0 ... 10 | 4 | 0 | °C/°F |
| 565 | Af11 | 47882 | | Antifreeze: Evaporator Electric Heater Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 566 | Af12 | 47883 | | Antifreeze: Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 567 | Af13 | 47884 | | Antifreeze: Electric Heater Enabled on Antifreeze Alarms | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 568 | Af14 | 47885 | | Antifreeze: Electric Heater Enabled On Cooling | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 569 | Af15 | 47886 | | Antifreeze: Electric Heater Enabled on Defrost | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 570 | Af16 | 47887 | | Antifreeze: Electric Heater Enabled on Heating | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 571 | Af17 | 47888 | | Antifreeze: Electric Heater Enabled on StdBy/Off | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 572 | Af18 | 47889 | | Antifreeze 2: Alarm Temp Set Point Cooling | WORD | Y | -50 ... 150 | 3 | 0 | °C/°F |
| 573 | Af19 | 47890 | | Antifreeze 2: Alarm Temp Set Point Heating | WORD | Y | -50 ... 150 | 3 | 0 | °C/°F |
| 574 | Af20 | 47891 | | Antifreeze 2: Bypass Alarm Cooling | WORD | Y | 0 ... 10000 | 0 | -1 | sec |
| 575 | Af21 | 47892 | | Antifreeze 2: Bypass Alarm Heating | WORD | Y | 0 ... 10000 | 3000 | -1 | sec |
| 576 | Af22 | 47893 | | Antifreeze 2: Alarm Temp Hystersis Heating | WORD | Y | 0 ... 10 | 4 | 0 | °C/°F |
| 577 | Af23 | 47894 | | Antifreeze 2: Alarm Temp Hystersis Cooling | WORD | Y | 0 ... 10 | 4 | 0 | °C/°F |
| 578 | Af24 | 47895 | | Antifreeze 2: Alarm Detection Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 579 | Af25 | 47896 | | Antifreeze 2: Max Num of Automatic Alarms | WORD | Y | 0 ... 1000 | 3 | 0 | num |
| 580 | Af26 | 47897 | | Antifreeze 2: Electric Heater Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 581 | Af27 | 47898 | | Antifreeze 2: Electric Heater on Alarm | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Defrost Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 582 | Df01 | **48128** | | Defrost: End Pressure Set Point | WORD | Y | 0 ... 200 | 120 | -1 | Bar |
| 583 | Df02 | **48129** | | Defrost: Start Temp Set Point | WORD | Y | -300 ... 1000 | 120 | -1 | °C/°F |
| 584 | Df03 | **48130** | | Defrost: End Temp Set Point | WORD | Y | -300 ... 1000 | 180 | -1 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 585 | Df04 | **48131** | | Defrost: Fans at MAX Power Press Set Point | WORD | Y | 100 ... 300 | 230 | -1 | Bar |
| 586 | Df05 | **48132** | | Defrost: Fans at MAX Power Temp Set Point | WORD | Y | -300 ... 1000 | 500 | -1 | °C/°F |
| 587 | Df06 | **48133** | | Defrost: Fans at MAX Power Press Differential | WORD | Y | 0 ... 10000 | 0 | -1 | Bar |
| 588 | Df07 | **48134** | | Defrost: Fans at MAX Power Temp Differential | WORD | Y | 0 ... 10000 | 0 | -1 | °C/°F |
| 589 | Df08 | **48135** | | Defrost: Min Delay Between two Defrosts | WORD | Y | 0 ... 1000 | 1000 | 0 | min |
| 590 | Df09 | **48136** | | Defrost: Dripping Time | WORD | Y | 0 ... 10000 | 200 | -1 | sec |
| 591 | Df10 | **48137** | | Defrost: OFF-ON compressor delay in Defrost | WORD | Y | 0 ... 10000 | 300 | -1 | sec |
| 592 | Df11 | **48138** | | Defrost: Valve delay at defrost start | WORD | Y | 0 ... 10000 | 300 | -1 | sec |
| 593 | Df12 | **48139** | | Defrost: Condenser DF Additional Temp Sensors Enable | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 594 | Df13 | **48140** | | Defrost: Condenser DF Additional Press Sensors Enable | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 595 | Df14 | **48141** | | Defrost: Cumulative time before defrost start | WORD | Y | 0 ... 60 | 30 | 0 | min |
| 596 | Df15 | **48142** | | Defrost: Min Duration | WORD | Y | 0 ... 60 | 30 | 0 | min |
| 597 | Df16 | **48143** | | Defrost: MAX Duration | WORD | Y | 0 ... 30 | 5 | 0 | min |
| 598 | Df17 | **48144** | | Defrost: Low Press Alarm Bypass Time in Defrost | WORD | Y | 0 ... 30 | 1 | 0 | min |
| 599 | Df18 | **48145** | | Defrost: Start Press Set Point | WORD | Y | 0 ... 70 | 30 | -1 | Bar |
| 600 | Df19 | **48146** | | Defrost: Type | WORD | Y | 0 ... 5 | 2 | 0 | num |
| 601 | Df20 | **48147** | | Defrost: Start Sensor Type | WORD | Y | 0 ... 1 | 1 | 0 | num |
| 602 | Df21 | **48148** | | Defrost: End Sensor Type | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 603 | Df22 | **48149** | | Defrost: *Configuration* | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 604 | Df23 | **48150** | | Defrost: Condenser Electric Heater Presence | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 605 | Df24 | **48151** | | Defrost: Max Power During Defrost | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 606 | Df25 | **48152** | | Defrost: Fans Max Power On Drippin' | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 607 | Df26 | **48153** | | Defrost: Defrost Compensation Enable | WORD | Y | 0 ... 2 | 0 | 0 | num |
| 608 | Df27 | **48154** | | Defrost: Compensation Temp Set Point | WORD | Y | -500 ... 1500 | 100 | -1 | °C/°F |
| 609 | Df28 | **48155** | | Defrost: Compensation Temp Hysteresis | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 610 | Df29 | **48156** | | Defrost: Compensation Temp Maximum Offset | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |
| 611 | Df30 | **48157** | | Defrost: Compensation Pressure Maximum Offset | WORD | Y | -300 ... 300 | 50 | -1 | °C/°F |

**Regulation Algorithm Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 612 | Sp01 | 48384 | | Soft Start Time | WORD | Y | 0 ... 1200 | 40 | -1 | sec |
| 613 | Sp02 | 48385 | | Unit Starting Mode | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 614 | Sp03 | 48386 | | Evaporators' Selection Logic | WORD | Y | 0 ... 1 | 0 | 0 | num |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 615 | Sp04 | 48387 | | Circuits' Selection Logic | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 616 | Sp05 | 48388 | | Compressors' Selection Logic | WORD | Y | 0 ... 1 | 0 | 0 | num |
| 617 | Sp06 | 48389 | | Reversable Heat-Pump Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 618 | Sp07 | 48390 | | Soft Start Enable Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 619 | Sp08 | 48391 | | Machine Reversal Remote Input Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 620 | Sp09 | 48392 | | Remote OFF Input Presence | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Special Algorithms Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 621 | Ad01 | **48640** | | Advanced Comp Selection Logic: Compressors Starts Weight | WORD | Y | -50 ... 50 | 1 | 0 | num |
| 622 | Ad02 | **48641** | | Advanced Comp Selection Logic: Time Weight | WORD | Y | -50 ... 50 | 1 | 0 | num |
| 623 | Ad03 | **48642** | | Advanced Comp Selection Logic: Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Alarms Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 624 | Dg01 | 48896 | | Alarms: Evaporator Temp Alarm Set Point | WORD | Y | 0 ... 150 | 50 | -1 | °C/°F |
| 625 | Dg02 | 48897 | | Alarms: Evaporator Temp Alarm Alarm Bypass | WORD | Y | 5 ... 300 | 120 | 0 | num |
| 626 | Dg03 | 48898 | | Alarms: High Inlet Temp Alarm Bypass Time | WORD | Y | 1 ... 99 | 15 | 0 | min |
| 627 | Dg04 | 48899 | | Alarms: Low Inlet Temp Alarm Bypass Time | WORD | Y | 1 ... 99 | 15 | 0 | min |
| 628 | Dg05 | 48900 | | Alarms: High Inlet Temp Alarm Set Point | WORD | Y | -15 ... 50 | 18 | 0 | °C/°F |
| 629 | Dg06 | 48901 | | Alarms: Low Inlet Temp Alarm Set Point | WORD | Y | -15 ... 50 | 8 | 0 | °C/°F |
| 630 | Dg07 | 48902 | | Alarms: Evaporator Temp Alarm Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |
| 631 | Dg08 | 48903 | | Alarms: High Inlet Temp Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 632 | Dg09 | 48904 | | Alarms: Low Inlet Temp Alarm Enable | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Electrical Heaters Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 633 | At01 | **49152** | | Supplementary Heating: Evap Heater Boost Proportional Band | WORD | Y | 0 ... 300 | 50 | -1 | °C/°F |
| 634 | At02 | **49153** | | Supplementary Heating: Temp Differential to Enable Heaters | WORD | Y | -100 ... 100 | 20 | -1 | °C/°F |
| 635 | At03 | **49154** | | Supplementary Heating: Enable | WORD | Y | 0 ... 1 | 0 | 0 | flag |

**Cooling Mode Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 636 | Mc01 | 49408 | | Cooling: Set Point | WORD | Y | -500 ... 500 | 70 | -1 | °C/°F |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 637 | Mc02 | 49409 | | Cooling: Min Set Point | WORD | Y | -500 ... 500 | 20 | -1 | °C/°F |
| 638 | Mc03 | 49410 | | Cooling: MAX Set Point | WORD | Y | -500 ... 500 | 200 | -1 | °C/°F |
| 639 | Mc04 | 49411 | | Cooling: Inlet Water Temp Offset | WORD | Y | 0 ... 150 | 0 | -1 | °C/°F |
| 640 | Mc05 | 49412 | | Cooling: Proportional Band | WORD | Y | 0 ... 200 | 50 | -1 | °C/°F |
| 641 | Mc06 | 49413 | | Cooling: Min Proportional Band | WORD | Y | -500 ... 500 | 10 | -1 | °C/°F |
| 642 | Mc07 | 49414 | | Cooling: MAX Proportional Band | WORD | Y | -500 ... 500 | 200 | -1 | °C/°F |
| 643 | Mc08 | 49415 | | Cooling: Incremental Step Time | WORD | Y | 0 ... 300 | 10 | 0 | sec |
| 644 | Mc09 | 49416 | | Cooling: Decremental Step Time | WORD | Y | 0 ... 300 | 10 | 0 | sec |

**Heating Mode Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 645 | Mh01 | **49664** | | Heating: Set Point | WORD | Y | -500 ... 1500 | 400 | -1 | °C/°F |
| 646 | Mh02 | **49665** | | Heating: Min Set Point | WORD | Y | -500 ... 1500 | 300 | -1 | °C/°F |
| 647 | Mh03 | **49666** | | Heating: MAX Set Point | WORD | Y | -500 ... 1500 | 500 | -1 | °C/°F |
| 648 | Mh04 | **49667** | | Heating: Proportional Band | WORD | Y | 0 ... 1500 | 50 | -1 | °C/°F |
| 649 | Mh05 | **49668** | | Heating: Min Proportional Band | WORD | Y | 0 ... 1500 | 10 | -1 | °C/°F |
| 650 | Mh06 | **49669** | | Heating: MAX Proportional Band | WORD | Y | 0 ... 1500 | 200 | -1 | °C/°F |
| 651 | Mh07 | **49670** | | Heating: Inc. Step Time | WORD | Y | 0 ... 300 | 10 | 0 | sec |
| 652 | Mh08 | **49671** | | Heating: Dec. Step Time | WORD | Y | 0 ... 300 | 10 | 0 | sec |
| 653 | Mh09 | **49672** | | Heating: Inlet Water Temp Offset | WORD | Y | 0 ... 15 | 0 | 0 | °C/°F |

**PI Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 654 | PI01 | 49920 | | Treg-PI: Integrative Costant | WORD | Y | 1 ... 600 | 30 | 0 | sec |
| 655 | PI02 | 49921 | | Treg-PI: *Use* Integrative Component | WORD | Y | 0 ... 1 | 1 | 0 | flag |
| 656 | PI03 | 49922 | | Treg-PI: *Use* Proportional Component | WORD | Y | 0 ... 1 | 1 | 0 | flag |

**Alarms Parameters – Pressure Alarms**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 657 | Ap01 | **50176** | | Alarms: High Pressure Alarm Set Point | WORD | Y | 0 ... 500 | 200 | -1 | Bar |
| 658 | Ap02 | **50177** | | Alarms: Low Pressure Alarm Bypass Time | WORD | Y | 0 ... 500 | 120 | 0 | sec |
| 659 | Ap03 | **50178** | | Alarms: Alarms Events per Hour with Auto Reset | WORD | Y | 0 ... 20 | 3 | 0 | num |
| 660 | Ap04 | **50179** | | Alarms: High Pressure Alarm Hysteresis | WORD | Y | 0 ... 100 | 10 | -1 | Bar |
| 661 | Ap05 | **50180** | | Alarms: Low Pressure Alarm Set  Point | WORD | Y | -10 ... 70 | 30 | -1 | Bar |
| 662 | Ap06 | **50181** | | Alarms: Low Pressure Hysteresis | WORD | Y | 0 ... 50 | 20 | -1 | Bar |

**Fans Controls Menu Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 663 | Ff01 | 50432 | | Fans: Control Type | WORD | Y | 0 … 2 | 1 | 0 | num |
| 664 | Ff02 | 50433 | | Fans: Control Sensor (T/P) | WORD | Y | 0 … 2 | 0 | 0 | num |
| 665 | Ff03 | 50434 | | Fans: OFF if Compressors OFF | WORD | Y | 0 … 1 | 1 | 0 | num |
| 666 | Ff04 | 50435 | | Fans: Max Power if Condenser Sensor is Faulty | WORD | Y | 0 … 1 | 1 | 0 | num |

**Fans Control Menu Parameters – Fans Set point**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 667 | Fm01 | **50688** | | Fans: Cut-off Temperature Set Point | WORD | Y | 0 … 500 | 120 | -1 | °C/°F |
| 668 | Fm02 | **50689** | | Fans: Cut-off Temperature Hysteresis | WORD | Y | 0 … 500 | 10 | -1 | °C/°F |
| 669 | Fm03 | **50690** | | Fans: Cut-off Pressure Set Point | WORD | Y | 0 … 350 | 50 | -1 | Bar |
| 670 | Fm04 | **50691** | | Fans: Cut-off:Temperature Set Point | WORD | Y | 0 … 500 | 120 | -1 | °C/°F |
| 671 | Fm05 | **50692** | | Fans: Cut-off Temperature Hysteresis | WORD | Y | 0 … 500 | 10 | -1 | °C/°F |
| 672 | Fm06 | **50693** | | Fans: Cut-off Pressure Set Point | WORD | Y | 0 … 350 | 50 | -1 | Bar |
| 673 | Fm07 | **50694** | | Fans: Temp Set Point for Min Fan Speed Cooling | WORD | Y | 0 … 500 | 130 | -1 | °C/°F |
| 674 | Fm08 | **50695** | | Fans: Temp Set Point for MAX Fan Speed Cooling | WORD | Y | 0 … 500 | 190 | -1 | °C/°F |
| 675 | Fm09 | **50696** | | Fans: Press Set Point for Min Fan Speed Cooling | WORD | Y | 0 … 250 | 100 | -1 | Bar |
| 676 | Fm10 | **50697** | | Fans: Press Set Point for MAX Fan Speed Cooling | WORD | Y | 0 … 250 | 200 | -1 | Bar |
| 677 | Fm11 | **50698** | | Fans: Temp Set Point for Min Fan Speed Heating | WORD | Y | 0 … 500 | 130 | -1 | °C/°F |
| 678 | Fm12 | **50699** | | Fans: Temp Set Point for MAX Fan Speed Heating | WORD | Y | 0 … 500 | 190 | -1 | °C/°F |
| 679 | Fm13 | **50700** | | Fans: Press Set Point for Min Fan Speed Heating | WORD | Y | 0 … 250 | 100 | -1 | Bar |
| 680 | Fm14 | **50701** | | Fans: Press Set Point for MAX Fan Speed Heating | WORD | Y | 0 … 250 | 200 | -1 | Bar |
| 681 | Fm15 | **50702** | | Fans: Cut-off Bypass Time Heating | WORD | Y | 0 … 120 | 30 | 0 | sec |
| 682 | Fm16 | **50703** | | Fans: Cut-off Bypass Time Cooling | WORD | Y | 0 … 120 | 30 | 0 | sec |
| 683 | Fm17 | **50704** | | Fans: Pickup Time Cooling | WORD | Y | 0 … 120 | 60 | 0 | sec |
| 684 | Fm18 | **50705** | | Fans: Min Speed Cooling | WORD | Y | 0 … 100 | 40 | 0 | num |
| 685 | Fm19 | **50706** | | Fans: MAX Speed Cooling | WORD | Y | 0 … 100 | 40 | 0 | num |
| 686 | Fm20 | **50707** | | Fans: Pickup Time Heating | WORD | Y | 0 … 120 | 60 | 0 | sec |
| 687 | Fm21 | **50708** | | Fans: Min Speed Heating | WORD | Y | 0 … 100 | 40 | 0 | num |
| 688 | Fm22 | **50709** | | Fans: MAX Speed Heating | WORD | Y | 0 … 100 | 40 | 0 | num |
| 689 | Fm23 | **50710** | | Fans: Cut-off Pressure Hysteresis Cooling | WORD | Y | 0 … 50 | 10 | -1 | Bar |
| 690 | Fm24 | **50711** | | Fans: Cut-off Pressure Hysteresis Heating | WORD | Y | 0 … 50 | 10 | -1 | Bar |
| 691 | Fm25 | **50712** | | Fans: Cut-off Enable Cooling | WORD | Y | 0 … 1 | 0 | 0 | num |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 692 | Fm26 | **50713** | | Fans: Cut-off Enable Heating | WORD | Y | 0 ... 1 | 0 | 0 | num |

**Fans Control Menu Parameters - Fans Step Cooling**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 693 | Fr01 | 50944 | | Fans Step Cooling: Pressure Set Point Step 2 | WORD | Y | 0 ... 300 | 120 | -1 | Bar |
| 694 | Fr02 | 50945 | | Fans Step Cooling: Temperature Set Point Step 2 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 695 | Fr03 | 50946 | | Fans Step Cooling: Pressure Set Point Step 3 | WORD | Y | 0 ... 300 | 140 | -1 | Bar |
| 696 | Fr04 | 50947 | | Fans Step Cooling: Temperature Set Point Step 3 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 697 | Fr05 | 50948 | | Fans Step Cooling: Pressure Set Point Step 4 | WORD | Y | 0 ... 300 | 160 | -1 | Bar |
| 698 | Fr06 | 50949 | | Fans Step Cooling: Temperature Set Point Step 4 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 699 | Fr07 | 50950 | | Fans Step Cooling: Pressure Set Point Step 1 | WORD | Y | 0 ... 300 | 100 | -1 | Bar |
| 700 | Fr08 | 50951 | | Fans Step Cooling: Temperature Set Point Step 1 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 701 | Fr09 | 50952 | | Fans Step Cooling: Pressure Set Point Step 5 | WORD | Y | 0 ... 300 | 0 | -1 | Bar |
| 702 | Fr10 | 50953 | | Fans Step Cooling: Temperature Set Point Step 5 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 703 | Fr11 | 50954 | | Fans Step Cooling: Pressure Set Point Step 6 | WORD | Y | 0 ... 300 | 0 | -1 | Bar |
| 704 | Fr12 | 50955 | | Fans Step Cooling: Temperature Set Point Step 6 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 705 | Fr13 | 50956 | | Fans Step Cooling: Pressure Set Point Step 7 | WORD | Y | 0 ... 300 | 0 | -1 | Bar |
| 706 | Fr14 | 50957 | | Fans Step Cooling: Temperature Set Point Step 7 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 707 | Fr15 | 50958 | | Fans Step Cooling: Pressure Set Point Step 8 | WORD | Y | 0 ... 300 | 0 | -1 | Bar |
| 708 | Fr16 | 50959 | | Fans Step Cooling: Temperature Set Point Step 8 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 709 | Fr17 | 50960 | | Fans Step Cooling: Temp Hysteris Step 1 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 710 | Fr18 | 50961 | | Fans Step Cooling: Temp Hysteris Step 2 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 711 | Fr19 | 50962 | | Fans Step Cooling: Temp Hysteris Step 3 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 712 | Fr20 | 50963 | | Fans Step Cooling: Temp Hysteris Step 4 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 713 | Fr21 | 50964 | | Fans Step Cooling: Temp Hysteris Step 5 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 714 | Fr22 | 50965 | | Fans Step Cooling: Temp Hysteris Step 6 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 715 | Fr23 | 50966 | | Fans Step Cooling: Temp Hysteris Step 7 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 716 | Fr24 | 50967 | | Fans Step Cooling: Temp Hysteris Step 8 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 717 | Fr25 | 50968 | | Fans Step Cooling: Pressure Hysteris Step 1 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 718 | Fr26 | 50969 | | Fans Step Cooling: Pressure Hysteris Step 2 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 719 | Fr27 | 50970 | | Fans Step Cooling: Pressure Hysteris Step 3 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 720 | Fr28 | 50971 | | Fans Step Cooling: Pressure Hysteris Step 4 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 721 | Fr29 | 50972 | | Fans Step Cooling: Pressure Hysteris Step 5 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |
| 722 | Fr30 | 50973 | | Fans Step Cooling: Pressure Hysteris Step 6 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 723 | Fr31 | 50974 | | Fans Step Cooling: Pressure Hysteris Step 7 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |
| 724 | Fr32 | 50975 | | Fans Step Cooling: Pressure Hysteris Step 8 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |

**Fans Control Menu Parameters – Fans Step Heating**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 725 | Fh01 | **51200** | | Fans Step Heating: Pressure Set Point Step 1 | WORD | Y | 0 ... 600 | 80 | -1 | Bar |
| 726 | Fh02 | **51201** | | Fans Step Heating: Temperature Set Point Step 1 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 727 | Fh03 | **51202** | | Fans Step Heating: Pressure Set Point Step 2 | WORD | Y | 0 ... 600 | 60 | -1 | Bar |
| 728 | Fh04 | **51203** | | Fans Step Heating: Temperature Set Point Step 2 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 729 | Fh05 | **51204** | | Fans Step Heating: Pressure Set Point Step 3 | WORD | Y | 0 ... 600 | 40 | -1 | Bar |
| 730 | Fh06 | **51205** | | Fans Step Heating: Temperature Set Point Step 3 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 731 | Fh07 | **51206** | | Fans Step Heating: Pressure Set Point Step 4 | WORD | Y | 0 ... 600 | 20 | -1 | Bar |
| 732 | Fh08 | **51207** | | Fans Step Heating: Temperature Set Point Step 4 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 733 | Fh09 | **51208** | | Fans Step Heating: Pressure Set Point Step 5 | WORD | Y | 0 ... 600 | 0 | -1 | Bar |
| 734 | Fh10 | **51209** | | Fans Step Heating: Temperature Set Point Step 5 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 735 | Fh11 | **51210** | | Fans Step Heating: Pressure Set Point Step 6 | WORD | Y | 0 ... 600 | 0 | -1 | Bar |
| 736 | Fh12 | **51211** | | Fans Step Heating: Temperature Set Point Step 6 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 737 | Fh13 | **51212** | | Fans Step Heating: Pressure Set Point Step 7 | WORD | Y | 0 ... 600 | 0 | -1 | Bar |
| 738 | Fh14 | **51213** | | Fans Step Heating: Temperature Set Point Step 7 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 739 | Fh15 | **51214** | | Fans Step Heating: Pressure Set Point Step 8 | WORD | Y | 0 ... 600 | 0 | -1 | Bar |
| 740 | Fh16 | **51215** | | Fans Step Heating: Temperature Set Point Step 8 | WORD | Y | 0 ... 1500 | 0 | -1 | °C/°F |
| 741 | Fh17 | **51216** | | Fans Step Heating: Temp Hysteris Step 1 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 742 | Fh18 | **51217** | | Fans Step Heating: Temp Hysteris Step 2 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 743 | Fh19 | **51218** | | Fans Step Heating: Temp Hysteris Step 3 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 744 | Fh20 | **51219** | | Fans Step Heating: Temp Hysteris Step 4 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 745 | Fh21 | **51220** | | Fans Step Heating: Temp Hysteris Step 5 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 746 | Fh22 | **51221** | | Fans Step Heating: Temp Hysteris Step 6 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 747 | Fh23 | **51222** | | Fans Step Heating: Temp Hysteris Step 7 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 748 | Fh24 | **51223** | | Fans Step Heating: Temp Hysteris Step 8 | WORD | Y | 0 ... 300 | 0 | -1 | °C/°F |
| 749 | Fh25 | **51224** | | Fans Step Heating: Pressure Hysteris Step 1 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 750 | Fh26 | **51225** | | Fans Step Heating: Pressure Hysteris Step 2 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 751 | Fh27 | **51226** | | Fans Step Heating: Pressure Hysteris Step 3 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 752 | Fh28 | **51227** | | Fans Step Heating: Pressure Hysteris Step 4 | WORD | Y | 0 ... 100 | 20 | -1 | Bar |
| 753 | Fh29 | **51228** | | Fans Step Heating: Pressure Hysteris Step 5 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 754 | Fh30 | **51229** | | Fans Step Heating: Pressure Hysteris Step 6 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |
| 755 | Fh31 | **51230** | | Fans Step Heating: Pressure Hysteris Step 7 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |
| 756 | Fh32 | **51231** | | Fans Step Heating: Pressure Hysteris Step 8 | WORD | Y | 0 ... 100 | 0 | -1 | Bar |

**Pumps Parameters**

| INDEX | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| 757 | Pp01 | 51456 | | Pumpgroup: Comp Stop Delay on Pump Rotation | WORD | Y | 0 ... 10000 | 150 | -1 | sec |
| 758 | Pp02 | 51457 | | Pumpgroup: Pump ON - compressors ON delay | WORD | Y | 0 ... 2000 | 60 | 0 | sec |
| 759 | Pp03 | 51458 | | Pumpgroup: Compressor OFF - pump OFF delay | WORD | Y | 0 ... 2000 | 60 | 0 | sec |
| 760 | Pp04 | 51459 | | Pumpgroup: Pump ON - compressors ON delay (on demand) | WORD | Y | 0 ... 10000 | 130 | -1 | sec |
| 761 | Pp05 | 51460 | | Pumpgroup: Compressor OFF - pump OFF delay (on demand) | WORD | Y | 0 ... 10000 | 120 | -1 | sec |
| 762 | Pp06 | 51461 | | Pumpgroup: Flow Switch Alarm Auto->Man Time | WORD | Y | 1 ... 60 | 10 | 0 | sec |
| 763 | Pp07 | 51462 | | Pumpgroup: Flow Switch Alarm Bypass Startup Time | WORD | Y | 1 ... 99 | 15 | 0 | sec |
| 764 | Pp08 | 51463 | | Pumpgroup: Flow Switch Alarm Entry Time | WORD | Y | 0 ... 60 | 10 | 0 | sec |
| 765 | Pp09 | 51464 | | Pumpgroup: Flow Switch Alarm Exit Time | WORD | Y | 0 ... 60 | 10 | 0 | sec |
| 766 | Pp10 | 51465 | | Pumpgroup: Pump Rotation Time | WORD | Y | 1 ... 99 | 12 | 0 | ore |
| 767 | Pp11 | 51466 | | Pumpgroup: Control Type | WORD | Y | 0 ... 2 | 2 | 0 | num |
| 768 | Pp12 | 51467 | | Pumpgroup: Comp Stop on Pump Rotation Enable | WORD | Y | 0 ... 1 | 1 | 0 | num |
| 769 | Pp13 | 51468 | | Pumpgroup: Pump On Demand Enable | WORD | Y | 0 ... 1 | 0 | 0 | num |

**IMPORTANT: The colour of the ADDRESS column indicates addresses belonging to the same area.**

# 6 TABELLA CLIENT

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 1 | **32768** | RW | Seconds | WORD | | 0 ... 59 | | sec |
| 2 | **32769** | RW | minutes | WORD | | 0 ... 59 | | min |
| 3 | **32770** | RW | hours | WORD | | 0 ... 23 | | hour |
| 4 | **32771** | RW | Day of week | WORD | | 0 ... 6 | | day |
| 5 | **32772** | RW | Day of month | WORD | | 1 ... 31 | | daymonth |
| 6 | **32773** | RW | Month | WORD | | 1 ... 12 | | month |
| 10 | **32774** | RW | Year | WORD | | 0 ... 99 | | year |
| 11 | **33024** | RW | Compressor enable [E2] 1 | WORD | | 0 ... 1 | | flag |
| 12 | **33025** | RW | Compressor enable [E2] 2 | WORD | | 0 ... 1 | | flag |
| 13 | **33026** | RW | Compressor enable [E2] 3 | WORD | | 0 ... 1 | | flag |
| 14 | **33027** | RW | Compressor enable [E2] 4 | WORD | | 0 ... 1 | | flag |
| 15 | **33028** | RW | Compressor enable [E2] 5 | WORD | | 0 ... 1 | | flag |
| 16 | **33029** | RW | Compressor enable [E2] 6 | WORD | | 0 ... 1 | | flag |
| 17 | **33030** | RW | Compressor enable [E2] 7 | WORD | | 0 ... 1 | | flag |
| 18 | **33031** | RW | Compressor enable [E2] 8 | WORD | | 0 ... 1 | | flag |
| 19 | **33032** | RW | Freecooling enable [E2] | WORD | | 0 ... 1 | | flag |
| 20 | **33033** | RW | Recover enable [E2] | WORD | | 0 ... 1 | | flag |
| 21 | **33034** | RW | System off status [E2] | WORD | | 0 ... 1 | | flag |
| 22 | **33035** | RW | System on status [E2] | WORD | | 0 ... 1 | | flag |
| 23 | **33036** | RW | EEprom error | WORD | | 0 ... 1 | | flag |
| 24 | **33037** | RW | Clock error | WORD | | 0 ... 1 | | flag |
| 25 | **33038** | RW | Timer function: enable [E2] | WORD | | 0 ... 1 | | flag |
| 26 | **33039** | RW | Timer function: Cool mode [E2] set point backup | WORD | | 0 ... 1 | | flag |
| 27 | **33040** | RW | Timer function: Hot mode [E2] set point backup | WORD | | 0 ... 1 | | flag |
| 28 | **33041** | RW | Timer function: mode [E2] | WORD | | 0 ... 1 | | flag |
| 29 | **33042** | RW | Parameter [E2] modified | WORD | | 0 ... 1 | | flag |
| 30 | **34560** | R | Alpha-BIOS - Temperature probe primary input | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 31 | **34561** | R | Alpha-BIOS - Temperature probe primary output (or joint) | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 32 | **34562** | R | Inlet water temperature sensor of primary circuit | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 33 | **34563** | R | Recovery inlet temperature sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 34 | **34564** | R | Evaporator 1 primary output temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 35 | **34565** | R | Evaporator 2 primary output temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 36 | **34566** | R | Evaporator 3 primary output temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 37 | **34567** | R | Evaporator 4 primary output temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 38 | **34568** | R | Inlet water temperature sensor of primary circuit | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 39 | **34569** | R | Circuit 1 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 40 | **34570** | R | Circuit 2 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 41 | **34571** | R | Circuit 3 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 42 | **34572** | R | Circuit 5 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 43 | **34573** | R | Circuit 6 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 44 | **34574** | R | Circuit 7 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 45 | **34575** | R | Circuit 8 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 46 | **34576** | R | Circuit 9 condenser temperature probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 47 | **34577** | R | Condenser temperature for defrost circuit 1 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 48 | **34578** | R | Condenser temperature for defrost circuit 2 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 49 | **34579** | R | Condenser temperature for defrost circuit 3 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 50 | **34580** | R | Condenser temperature for defrost circuit 4 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 51 | **34581** | R | Condenser temperature for defrost circuit 5 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 52 | **34582** | R | Condenser temperature for defrost circuit 6 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 53 | **34583** | R | Condenser temperature for defrost circuit 7 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 54 | **34584** | R | Condenser temperature for defrost circuit 8 special probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 55 | **34585** | R | Compressor 1 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 56 | **34586** | R | Compressor 2 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 57 | **34587** | R | Compressor 3 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 58 | **34588** | R | Compressor 4 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 59 | **34589** | R | Compressor 5 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 60 | **34590** | R | Compressor 6 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 61 | **34591** | R | Compressor 7 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 62 | **34592** | R | Compressor 8 discharge temperature analogue sensor | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 63 | **34593** | R | Free-cooling probe | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 64 | **34594** | R | Circuit 1 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 65 | **34595** | R | Circuit 2 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 66 | **34596** | R | Circuit 3 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 67 | **34597** | R | Circuit 4 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 68 | **34598** | R | Circuit 5 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 69 | **34599** | R | Circuit 6 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 70 | **34600** | R | Circuit 7 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 71 | **34601** | R | Circuit 8 (* in chilling) maximum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 72 | **34602** | R | Condenser pressure for defrost circuit 1 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 73 | **34603** | R | Condenser pressure for defrost circuit 2 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 74 | **34604** | R | Condenser pressure for defrost circuit 3 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 75 | **34605** | R | Condenser pressure for defrost circuit 4 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 76 | **34606** | R | Condenser pressure for defrost circuit 5 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 77 | **34607** | R | Condenser pressure for defrost circuit 6 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 78 | **34608** | R | Condenser pressure for defrost circuit 7 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 79 | **34609** | R | Condenser pressure for defrost circuit 8 special probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 80 | **34610** | R | Circuit 1 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 81 | **34611** | R | Circuit 2 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 82 | **34612** | R | Circuit 3 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 83 | **34613** | R | Circuit 4 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 84 | **34614** | R | Circuit 5 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 85 | **34615** | R | Circuit 6 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 86 | **34616** | R | Circuit 7 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 87 | **34617** | R | Circuit 8 (* in chilling) minimum pressure analogue probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 88 | **34618** | R | Compressor 1 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 89 | **34619** | R | Compressor 2 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 90 | **34620** | R | Compressor 3 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 91 | **34621** | R | Compressor 4 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 92 | **34622** | R | Compressor 5 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 93 | **34623** | R | Compressor 6 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 94 | **34624** | R | Compressor 7 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 95 | **34625** | R | Compressor 8 oil pressure probe | WORD | Y | -10 ... 1000 | -1 | Bar |
| 96 | **34626** | R | External temperature probe for dynamic Tset | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 97 | **34627** | R | Current sensor for dynamic Tset | WORD | | 4 ... 20 | | mA |
| 98 | **34628** | R | Circuit 1 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 99 | **34629** | R | Circuit 2 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 100 | **34630** | R | Circuit 3 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 101 | **34631** | R | Circuit 4 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 102 | **34632** | R | Circuit 5 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 103 | **34633** | R | Circuit 6 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 104 | **34634** | R | Circuit 7 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 105 | **34635** | R | Circuit 8 (in chilling) maximum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 106 | **34636** | R | Circuit 1 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 107 | **34637** | R | Circuit 2 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 108 | **34638** | R | Circuit 3 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 109 | **34639** | R | Circuit 4 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 110 | **34640** | R | Circuit 5 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 111 | **34641** | R | Circuit 6 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 112 | **34642** | R | Circuit 7 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 113 | **34643** | R | Circuit 8 (in chilling) minimum pressure pressure switch | WORD | | 0 ... 1 | | flag |
| 114 | **34644** | R | Compressor 1 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 115 | **34645** | R | Compressor 2 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 116 | **34646** | R | Compressor 3 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 117 | **34647** | R | Compressor 4 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 118 | **34648** | R | Compressor 5 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 119 | **34649** | R | Compressor 6 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 120 | **34650** | R | Compressor 7 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 121 | **34651** | R | Compressor 8 motor thermal switch | WORD | | 0 ... 1 | | flag |
| 122 | **34652** | R | Compressor 1 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 123 | **34653** | R | Compressor 2 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 124 | **34654** | R | Compressor 3 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 125 | **34655** | R | Compressor 4 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 126 | **34656** | R | Compressor 5 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 127 | **34657** | R | Compressor 6 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 128 | **34658** | R | Compressor 7 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 129 | **34659** | R | Compressor 8 discharge temperature digital probe | WORD | | 0 ... 1 | | flag |
| 130 | **34660** | R | Compressor 1 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 131 | **34661** | R | Compressor 2 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 132 | **34662** | R | Compressor 3 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 133 | **34663** | R | Compressor 4 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 134 | **34664** | R | Compressor 5 oil pressure digital probe | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 135 | **34665** | R | Compressor 6 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 136 | **34666** | R | Compressor 7 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 137 | **34667** | R | Compressor 8 oil pressure digital probe | WORD | | 0 ... 1 | | flag |
| 138 | **34668** | R | Primary circuit flow switch | WORD | | 0 ... 1 | | flag |
| 139 | **34669** | R | Secondary circuit flow switch | WORD | | 0 ... 1 | | flag |
| 140 | **34670** | R | Free cooling circuit flow switch | WORD | | 0 ... 1 | | flag |
| 141 | **34671** | R | Summer/winter mode switching | WORD | | 0 ... 1 | | flag |
| 142 | **34672** | R | Special digital input pressure for circuit 1 pump down | WORD | | 0 ... 1 | | flag |
| 143 | **34673** | R | Special digital input pressure for circuit 2 pump down | WORD | | 0 ... 1 | | flag |
| 144 | **34674** | R | Special digital input pressure for circuit 3 pump down | WORD | | 0 ... 1 | | flag |
| 145 | **34675** | R | Special digital input pressure for circuit 4 pump down | WORD | | 0 ... 1 | | flag |
| 146 | **34676** | R | Special digital input pressure for circuit 5 pump down | WORD | | 0 ... 1 | | flag |
| 147 | **34677** | R | Special digital input pressure for circuit 6 pump down | WORD | | 0 ... 1 | | flag |
| 148 | **34678** | R | Special digital input pressure for circuit 7 pump down | WORD | | 0 ... 1 | | flag |
| 149 | **34679** | R | Special digital input pressure for circuit 8 pump down | WORD | | 0 ... 1 | | flag |
| 150 | **34680** | R | Special digital input pressure for circuit 1 heat recovery | WORD | | 0 ... 1 | | flag |
| 151 | **34681** | R | Special digital input pressure for circuit 2 heat recovery | WORD | | 0 ... 1 | | flag |
| 152 | **34682** | R | Special digital input pressure for circuit 3 heat recovery | WORD | | 0 ... 1 | | flag |
| 153 | **34683** | R | Special digital input pressure for circuit 4 heat recovery | WORD | | 0 ... 1 | | flag |
| 154 | **34684** | R | Special digital input pressure for circuit 5 heat recovery | WORD | | 0 ... 1 | | flag |
| 155 | **34685** | R | Special digital input pressure for circuit 6 heat recovery | WORD | | 0 ... 1 | | flag |
| 156 | **34686** | R | Special digital input pressure for circuit 7 heat recovery | WORD | | 0 ... 1 | | flag |
| 157 | **34687** | R | Special digital input pressure for circuit 8 heat recovery | WORD | | 0 ... 1 | | flag |
| 158 | **34688** | R | Digital input temperature for circuit 1 fan control | WORD | | 0 ... 1 | | flag |
| 159 | **34689** | R | Digital input temperature for circuit 2 fan control | WORD | | 0 ... 1 | | flag |
| 160 | **34690** | R | Digital input temperature for circuit 3 fan control | WORD | | 0 ... 1 | | flag |
| 161 | **34691** | R | Digital input temperature for circuit 4 fan control | WORD | | 0 ... 1 | | flag |
| 162 | **34692** | R | Digital input temperature for circuit 5 fan control | WORD | | 0 ... 1 | | flag |
| 163 | **34693** | R | Digital input temperature for circuit 6 fan control | WORD | | 0 ... 1 | | flag |
| 164 | **34694** | R | Digital input temperature for circuit 7 fan control | WORD | | 0 ... 1 | | flag |
| 165 | **34695** | R | Digital input temperature for circuit 8 fan control | WORD | | 0 ... 1 | | flag |
| 166 | **34696** | R | Fan 1 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 167 | **34697** | R | Fan 2 thermal switch alarm | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 168 | **34698** | R | Fan 3 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 169 | **34699** | R | Fan 4 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 170 | **34700** | R | Fan 5 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 171 | **34701** | R | Fan 6 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 172 | **34702** | R | Fan 7 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 173 | **34703** | R | Fan 8 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 174 | **34704** | R | Fan 9 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 175 | **34705** | R | Fan 10 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 176 | **34706** | R | Fan 11 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 177 | **34707** | R | Fan 12 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 178 | **34708** | R | Fan 13 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 179 | **34709** | R | Fan 14 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 180 | **34710** | R | Fan 15 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 181 | **34711** | R | Fan 16 thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 182 | **34712** | R | Remote On/Off | WORD | | 0 ... 1 | | flag |
| 183 | **34713** | R | Pump group thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 184 | **34714** | R | Pump group primary pump 1 circuit thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 185 | **34715** | R | Pump group primary pump 2 circuit thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 186 | **34716** | R | Secondary pump circuit thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 187 | **34717** | R | Free cooling pumps thermal switch alarm | WORD | | 0 ... 1 | | flag |
| 188 | **34816** | R | Fan digital relay 1 | WORD | | 0 ... 100 | | % |
| 189 | **34817** | R | Fan digital relay 2 | WORD | | 0 ... 100 | | % |
| 190 | **34818** | R | Fan digital relay 3 | WORD | | 0 ... 100 | | % |
| 191 | **34819** | R | Fan digital relay 4 | WORD | | 0 ... 100 | | % |
| 192 | **34820** | R | Fan digital relay 5 | WORD | | 0 ... 100 | | % |
| 193 | **34821** | R | Fan digital relay 6 | WORD | | 0 ... 100 | | % |
| 194 | **34822** | R | Fan digital relay 7 | WORD | | 0 ... 100 | | % |
| 195 | **34823** | R | Fan digital relay 8 | WORD | | 0 ... 100 | | % |
| 196 | **34824** | R | Fan digital relay 9 | WORD | | 0 ... 100 | | % |
| 197 | **34825** | R | Fan digital relay 10 | WORD | | 0 ... 100 | | % |
| 198 | **34826** | R | Fan digital relay 11 | WORD | | 0 ... 100 | | % |
| 199 | **34827** | R | Fan digital relay 12 | WORD | | 0 ... 100 | | % |
| 200 | **34828** | R | Fan digital relay 13 | WORD | | 0 ... 100 | | % |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 201 | **34829** | R | Fan digital relay 14 | WORD | | 0 ... 100 | | % |
| 202 | **34830** | R | Fan digital relay 15 | WORD | | 0 ... 100 | | % |
| 203 | **34831** | R | Fan digital relay 16 | WORD | | 0 ... 100 | | % |
| 204 | **34832** | R | Compressor 1 power steps | WORD | | 0 ... 4 | | num |
| 205 | **34833** | R | Compressor 2 power steps | WORD | | 0 ... 4 | | num |
| 206 | **34834** | R | Compressor 3 power steps | WORD | | 0 ... 4 | | num |
| 207 | **34835** | R | Compressor 4 power steps | WORD | | 0 ... 4 | | num |
| 208 | **34836** | R | Compressor 5 power steps | WORD | | 0 ... 4 | | num |
| 209 | **34837** | R | Compressor 6 power steps | WORD | | 0 ... 4 | | num |
| 210 | **34838** | R | Compressor 7 power steps | WORD | | 0 ... 4 | | num |
| 211 | **34839** | R | Compressor 8 power steps | WORD | | 0 ... 4 | | num |
| 212 | **34840** | R | Cumulative machine alarm | WORD | | 0 ... 1 | | flag |
| 213 | **34841** | R | Evaporator 1 primary circuit anti-freeze | WORD | | 0 ... 1 | | flag |
| 214 | **34842** | R | Evaporator 2 primary circuit anti-freeze | WORD | | 0 ... 1 | | flag |
| 215 | **34843** | R | Evaporator 3 primary circuit anti-freeze | WORD | | 0 ... 1 | | flag |
| 216 | **34844** | R | Evaporator 4 primary circuit anti-freeze | WORD | | 0 ... 1 | | flag |
| 217 | **34845** | R | Compressor on 1 | WORD | | 0 ... 1 | | flag |
| 218 | **34846** | R | Compressor on 2 | WORD | | 0 ... 1 | | flag |
| 219 | **34847** | R | Compressor on 3 | WORD | | 0 ... 1 | | flag |
| 220 | **34848** | R | Compressor on 4 | WORD | | 0 ... 1 | | flag |
| 221 | **34849** | R | Compressor on 5 | WORD | | 0 ... 1 | | flag |
| 222 | **34850** | R | Compressor on 6 | WORD | | 0 ... 1 | | flag |
| 223 | **34851** | R | Compressor on 7 | WORD | | 0 ... 1 | | flag |
| 224 | **34852** | R | Compressor on 8 | WORD | | 0 ... 1 | | flag |
| 225 | **34853** | R | Compressor 1 relay part winding | WORD | | 0 ... 1 | | flag |
| 226 | **34854** | R | Compressor 2 relay part winding | WORD | | 0 ... 1 | | flag |
| 227 | **34855** | R | Compressor 3 relay part winding | WORD | | 0 ... 1 | | flag |
| 228 | **34856** | R | Compressor 4 relay part winding | WORD | | 0 ... 1 | | flag |
| 229 | **34857** | R | Compressor 5 relay part winding | WORD | | 0 ... 1 | | flag |
| 230 | **34858** | R | Compressor 6 relay part winding | WORD | | 0 ... 1 | | flag |
| 231 | **34859** | R | Compressor 7 relay part winding | WORD | | 0 ... 1 | | flag |
| 232 | **34860** | R | Compressor 8 relay part winding | WORD | | 0 ... 1 | | flag |
| 233 | **34861** | R | Solenoid valve circuit1 | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 234 | **34862** | R | Solenoid valve circuit 2 | WORD | | 0 ... 1 | | flag |
| 235 | **34863** | R | Solenoid valve circuit 3 | WORD | | 0 ... 1 | | flag |
| 236 | **34864** | R | Solenoid valve circuit 4 | WORD | | 0 ... 1 | | flag |
| 237 | **34865** | R | Solenoid valve circuit 5 | WORD | | 0 ... 1 | | flag |
| 238 | **34866** | R | Solenoid valve circuit 6 | WORD | | 0 ... 1 | | flag |
| 239 | **34867** | R | Solenoid valve circuit 7 | WORD | | 0 ... 1 | | flag |
| 240 | **34868** | R | Solenoid valve circuit 8 | WORD | | 0 ... 1 | | flag |
| 241 | **34869** | R | Circuit 1 inversion valve | WORD | | 0 ... 1 | | flag |
| 242 | **34870** | R | Circuit 2 inversion valve | WORD | | 0 ... 1 | | flag |
| 243 | **34871** | R | Circuit 3 inversion valve | WORD | | 0 ... 1 | | flag |
| 244 | **34872** | R | Circuit 4 inversion valve | WORD | | 0 ... 1 | | flag |
| 245 | **34873** | R | Circuit 5 inversion valve | WORD | | 0 ... 1 | | flag |
| 246 | **34874** | R | Circuit 6 inversion valve | WORD | | 0 ... 1 | | flag |
| 247 | **34875** | R | Circuit 7 inversion valve | WORD | | 0 ... 1 | | flag |
| 248 | **34876** | R | Circuit 8 inversion valve | WORD | | 0 ... 1 | | flag |
| 249 | **34877** | R | Circuit 1 three-way valve | WORD | | 0 ... 1 | | flag |
| 250 | **34878** | R | Circuit 2 three-way valve | WORD | | 0 ... 1 | | flag |
| 251 | **34879** | R | Circuit 3 three-way valve | WORD | | 0 ... 1 | | flag |
| 252 | **34880** | R | Circuit 4 three-way valve | WORD | | 0 ... 1 | | flag |
| 253 | **34881** | R | Circuit 5 three-way valve | WORD | | 0 ... 1 | | flag |
| 254 | **34882** | R | Circuit 6 three-way valve | WORD | | 0 ... 1 | | flag |
| 255 | **34883** | R | Circuit 7 three-way valve | WORD | | 0 ... 1 | | flag |
| 256 | **34884** | R | Circuit 8 three-way valve | WORD | | 0 ... 1 | | flag |
| 257 | **34885** | R | Heat Recovery pump | WORD | | 0 ... 1 | | flag |
| 258 | **34886** | R | Free Cooling pump | WORD | | 0 ... 1 | | flag |
| 259 | **34887** | R | Primary water circuit pump group | WORD | | 0 ... 1 | | flag |
| 260 | **34888** | R | Pump 1 | WORD | | 0 ... 1 | | flag |
| 261 | **34889** | R | Pump 2 | WORD | | 0 ... 1 | | flag |
| 262 | **34890** | R | Compressor 1 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 263 | **34891** | R | Compressor 1 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 264 | **34892** | R | Compressor 1 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 265 | **34893** | R | Compressor 2 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 266 | **34894** | R | Compressor 2 splitter 2 relay | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 267 | **34895** | R | Compressor 2 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 268 | **34896** | R | Compressor 3 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 269 | **34897** | R | Compressor 3 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 270 | **34898** | R | Compressor 3 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 271 | **34899** | R | Compressor 4 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 272 | **34900** | R | Compressor 4 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 273 | **34901** | R | Compressor 4 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 274 | **34902** | R | Compressor 5 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 275 | **34903** | R | Compressor 5 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 276 | **34904** | R | Compressor 5 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 277 | **34905** | R | Compressor 6 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 278 | **34906** | R | Compressor 6 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 279 | **34907** | R | Compressor 6 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 280 | **34908** | R | Compressor 7 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 281 | **34909** | R | Compressor 7 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 282 | **34910** | R | Compressor 7 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 283 | **34911** | R | Compressor 8 splitter 1 relay | WORD | | 0 ... 1 | | flag |
| 284 | **34912** | R | Compressor 8 splitter 2 relay | WORD | | 0 ... 1 | | flag |
| 285 | **34913** | R | Compressor 8 splitter 3 relay | WORD | | 0 ... 1 | | flag |
| 286 | **34914** | R | Circuit 1 condenser heater | WORD | | 0 ... 1 | | flag |
| 287 | **34915** | R | Circuit 2 condenser heater | WORD | | 0 ... 1 | | flag |
| 288 | **34916** | R | Circuit 3 condenser heater | WORD | | 0 ... 1 | | flag |
| 289 | **34917** | R | Circuit 4 condenser heater | WORD | | 0 ... 1 | | flag |
| 290 | **34918** | R | Circuit 5 condenser heater | WORD | | 0 ... 1 | | flag |
| 291 | **34919** | R | Circuit 6 condenser heater | WORD | | 0 ... 1 | | flag |
| 292 | **34920** | R | Circuit 7 condenser heater | WORD | | 0 ... 1 | | flag |
| 293 | **34921** | R | Circuit 8 condenser heater | WORD | | 0 ... 1 | | flag |
| 294 | **34922** | R | Compressor 1 relay star start | WORD | | 0 ... 1 | | flag |
| 295 | **34923** | R | Compressor 2 relay star start | WORD | | 0 ... 1 | | flag |
| 296 | **34924** | R | Compressor 3 relay star start | WORD | | 0 ... 1 | | flag |
| 297 | **34925** | R | Compressor 4 relay star start | WORD | | 0 ... 1 | | flag |
| 298 | **34926** | R | Compressor 5 relay star start | WORD | | 0 ... 1 | | flag |
| 299 | **34927** | R | Compressor 6 relay star start | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 300 | **34928** | R | Compressor 7 relay star start | WORD | | 0 ... 1 | | flag |
| 301 | **34929** | R | Compressor 8 relay star start | WORD | | 0 ... 1 | | flag |
| 302 | **34930** | R | Compressor 1 relay triangle start | WORD | | 0 ... 1 | | flag |
| 303 | **34931** | R | Compressor 2 relay triangle start | WORD | | 0 ... 1 | | flag |
| 304 | **34932** | R | Compressor 3 relay triangle start | WORD | | 0 ... 1 | | flag |
| 305 | **34933** | R | Compressor 4 relay triangle start | WORD | | 0 ... 1 | | flag |
| 306 | **34934** | R | Compressor 5 relay triangle start | WORD | | 0 ... 1 | | flag |
| 307 | **34935** | R | Compressor 6 relay triangle start | WORD | | 0 ... 1 | | flag |
| 308 | **34936** | R | Compressor 7 relay triangle start | WORD | | 0 ... 1 | | flag |
| 309 | **34937** | R | Compressor 8 relay triangle start | WORD | | 0 ... 1 | | flag |
| 310 | **34938** | R | Compressor 1 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 311 | **34939** | R | Compressor 2 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 312 | **34940** | R | Compressor 3 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 313 | **34941** | R | Compressor 4 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 314 | **34942** | R | Compressor 5 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 315 | **34943** | R | Compressor 6 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 316 | **34944** | R | Compressor 7 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 317 | **34945** | R | Compressor 8 relay liquid injection | WORD | | 0 ... 1 | | flag |
| 318 | **34946** | R | Secondary circuit antifreeze heater | WORD | | 0 ... 1 | | flag |
| 319 | **35072** | RW | Select compressor 1 | WORD | | 0 ... 1 | | flag |
| 320 | **35073** | RW | Select compressor 2 | WORD | | 0 ... 1 | | flag |
| 321 | **35074** | RW | Select compressor 3 | WORD | | 0 ... 1 | | flag |
| 322 | **35075** | RW | Select compressor 4 | WORD | | 0 ... 1 | | flag |
| 323 | **35076** | RW | Select compressor 5 | WORD | | 0 ... 1 | | flag |
| 324 | **35077** | RW | Select compressor 6 | WORD | | 0 ... 1 | | flag |
| 325 | **35078** | RW | Select compressor 7 | WORD | | 0 ... 1 | | flag |
| 326 | **35079** | RW | Select compressor 8 | WORD | | 0 ... 1 | | flag |
| 327 | **35080** | RW | Select free cooling | WORD | | 0 ... 1 | | flag |
| 328 | **35081** | RW | Select heat recovery | WORD | | 0 ... 1 | | flag |
| 329 | **35082** | RW | System off | WORD | | 0 ... 1 | | flag |
| 330 | **35083** | RW | System on | WORD | | 0 ... 1 | | flag |
| 331 | **35084** | RW | Circuit 1 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 332 | **35085** | RW | Circuit 2 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 333 | **35086** | RW | Circuit 3 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 334 | **35087** | RW | Circuit 4 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 335 | **35088** | RW | Circuit 5 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 336 | **35089** | RW | Circuit 6 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 337 | **35090** | RW | Circuit 7 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 338 | **35091** | RW | Circuit 8 maximum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 339 | **35092** | RW | Circuit 1 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 340 | **35093** | RW | Circuit 2 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 341 | **35094** | RW | Circuit 3 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 342 | **35095** | RW | Circuit 4 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 343 | **35096** | RW | Circuit 5 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 344 | **35097** | RW | Circuit 6 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 345 | **35098** | RW | Circuit 7 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 346 | **35099** | RW | Circuit 8 minimum pressure reset alarm | WORD | | 0 ... 1 | | flag |
| 347 | **35100** | RW | Compressor 1 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 348 | **35101** | RW | Compressor 2 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 349 | **35102** | RW | Compressor 3 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 350 | **35103** | RW | Compressor 4 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 351 | **35104** | RW | Compressor 5 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 352 | **35105** | RW | Compressor 6 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 353 | **35106** | RW | Compressor 7 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 354 | **35107** | RW | Compressor 8 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 355 | **35108** | RW | Compressor 1 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 356 | **35109** | RW | Compressor 2 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 357 | **35110** | RW | Compressor 3 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 358 | **35111** | RW | Compressor 4 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 359 | **35112** | RW | Compressor 5 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 360 | **35113** | RW | Compressor 6 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 361 | **35114** | RW | Compressor 7 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 362 | **35115** | RW | Compressor 8 discharge temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 363 | **35116** | RW | Compressor 1 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 364 | **35117** | RW | Compressor 2 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 365 | **35118** | RW | Compressor 3 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 366 | **35119** | RW | Compressor 4 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 367 | **35120** | RW | Compressor 5 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 368 | **35121** | RW | Compressor 6 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 369 | **35122** | RW | Compressor 7 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 370 | **35123** | RW | Compressor 8 oil pressure differential reset alarm | WORD | | 0 ... 1 | | flag |
| 371 | **35124** | RW | Compressor 1 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 372 | **35125** | RW | Compressor 2 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 373 | **35126** | RW | Compressor 3 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 374 | **35127** | RW | Compressor 4 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 375 | **35128** | RW | Compressor 5 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 376 | **35129** | RW | Compressor 6 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 377 | **35130** | RW | Compressor 7 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 378 | **35131** | RW | Compressor 8 oil pressure pressure switch reset alarm | WORD | | 0 ... 1 | | flag |
| 379 | **35132** | RW | Evaporator 1 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 380 | **35133** | RW | Evaporator 2 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 381 | **35134** | RW | Evaporator 3 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 382 | **35135** | RW | Evaporator 4 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 383 | **35136** | RW | Fan 1 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 384 | **35137** | RW | Fan 2 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 385 | **35138** | RW | Fan 3 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 386 | **35139** | RW | Fan 4 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 387 | **35140** | RW | Fan 5 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 388 | **35141** | RW | Fan 6 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 389 | **35142** | RW | Fan 7 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 390 | **35143** | RW | Fan 8 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 391 | **35144** | RW | Fan 9 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 392 | **35145** | RW | Fan 10 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 393 | **35146** | RW | Fan 11 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 394 | **35147** | RW | Fan 12 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 395 | **35148** | RW | Fan 13 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 396 | **35149** | RW | Fan 14 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 397 | **35150** | RW | Fan 15 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 398 | **35151** | RW | Fan 16 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 399 | **35152** | RW | High temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 400 | **35153** | RW | Low temperature reset alarm | WORD | | 0 ... 1 | | flag |
| 401 | **35154** | RW | Regulation error reset alarm | WORD | | 0 ... 1 | | flag |
| 402 | **35155** | RW | Free cooling flow reset alarm | WORD | | 0 ... 1 | | flag |
| 403 | **35156** | RW | Free cooling pump thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 404 | **35157** | RW | Heat recovery pump thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 405 | **35158** | RW | Heat recovery flow reset alarm | WORD | | 0 ... 1 | | flag |
| 406 | **35159** | RW | Reset alarm flow switch alarm | WORD | | 0 ... 1 | | flag |
| 407 | **35160** | RW | Pump 0 and 1 not available reset alarm | WORD | | 0 ... 1 | | flag |
| 408 | **35161** | RW | Pump group thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 409 | **35162** | RW | Water pump 1 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 410 | **35163** | RW | Water pump 2 thermal switch reset alarm | WORD | | 0 ... 1 | | flag |
| 411 | **35164** | RW | Secondary circuit 1 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 412 | **35165** | RW | Secondary circuit 2 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 413 | **35166** | RW | Secondary circuit 3 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 414 | **35167** | RW | Secondary circuit 4 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 415 | **35168** | RW | Secondary circuit 5 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 416 | **35169** | RW | Secondary circuit 6 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 417 | **35170** | RW | Secondary circuit 7 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 418 | **35171** | RW | Secondary circuit 8 antifreeze reset alarm | WORD | | 0 ... 1 | | flag |
| 419 | **35328** | R | Maximum pressure circuit 1 | WORD | | 0 ... 2 | | num |
| 420 | **35329** | R | Maximum pressure circuit 2 | WORD | | 0 ... 2 | | num |
| 421 | **35330** | R | Maximum pressure circuit 3 | WORD | | 0 ... 2 | | num |
| 422 | **35331** | R | Maximum pressure circuit 4 | WORD | | 0 ... 2 | | num |
| 423 | **35332** | R | Maximum pressure circuit 5 | WORD | | 0 ... 2 | | num |
| 424 | **35333** | R | Maximum pressure circuit 6 | WORD | | 0 ... 2 | | num |
| 425 | **35334** | R | Maximum pressure circuit 7 | WORD | | 0 ... 2 | | num |
| 426 | **35335** | R | Maximum pressure circuit 8 | WORD | | 0 ... 2 | | num |
| 427 | **35336** | R | Compressor 1 thermal switch | WORD | | 0 ... 2 | | num |
| 428 | **35337** | R | Compressor 2 thermal switch | WORD | | 0 ... 2 | | num |
| 429 | **35338** | R | Compressor 3 thermal switch | WORD | | 0 ... 2 | | num |
| 430 | **35339** | R | Compressor 4 thermal switch | WORD | | 0 ... 2 | | num |
| 431 | **35340** | R | Compressor 5 thermal switch | WORD | | 0 ... 2 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 432 | **35341** | R | Compressor 6 thermal switch | WORD | | 0 ... 2 | | num |
| 433 | **35342** | R | Compressor 7 thermal switch | WORD | | 0 ... 2 | | num |
| 434 | **35343** | R | Compressor 8 thermal switch | WORD | | 0 ... 2 | | num |
| 435 | **35344** | R | Compressor 1 discharge temperature | WORD | | 0 ... 2 | | num |
| 436 | **35345** | R | Compressor 2 discharge temperature | WORD | | 0 ... 2 | | num |
| 437 | **35346** | R | Compressor 3 discharge temperature | WORD | | 0 ... 2 | | num |
| 438 | **35347** | R | Compressor 4 discharge temperature | WORD | | 0 ... 2 | | num |
| 439 | **35348** | R | Compressor 5 discharge temperature | WORD | | 0 ... 2 | | num |
| 440 | **35349** | R | Compressor 6 discharge temperature | WORD | | 0 ... 2 | | num |
| 441 | **35350** | R | Compressor 7 discharge temperature | WORD | | 0 ... 2 | | num |
| 442 | **35351** | R | Compressor 8 discharge temperature | WORD | | 0 ... 2 | | num |
| 443 | **35352** | R | Pressure diff. compressor 1 oil | WORD | | 0 ... 2 | | num |
| 444 | **35353** | R | Pressure diff. compressor 2 oil | WORD | | 0 ... 2 | | num |
| 445 | **35354** | R | Pressure diff. compressor 3 oil | WORD | | 0 ... 2 | | num |
| 446 | **35355** | R | Pressure diff. compressor 4 oil | WORD | | 0 ... 2 | | num |
| 447 | **35356** | R | Pressure diff. compressor 5 oil | WORD | | 0 ... 2 | | num |
| 448 | **35357** | R | Pressure diff. compressor 6 oil | WORD | | 0 ... 2 | | num |
| 449 | **35358** | R | Pressure diff. compressor 7 oil | WORD | | 0 ... 2 | | num |
| 450 | **35359** | R | Pressure diff. compressor 8 oil | WORD | | 0 ... 2 | | num |
| 451 | **35360** | R | DI Compressor 1 oil pressure | WORD | | 0 ... 2 | | num |
| 452 | **35361** | R | DI Compressor 2 oil pressure | WORD | | 0 ... 2 | | num |
| 453 | **35362** | R | DI Compressor 3 oil pressure | WORD | | 0 ... 2 | | num |
| 454 | **35363** | R | DI Compressor 4 oil pressure | WORD | | 0 ... 2 | | num |
| 455 | **35364** | R | DI Compressor 5 oil pressure | WORD | | 0 ... 2 | | num |
| 456 | **35365** | R | DI Compressor 6 oil pressure | WORD | | 0 ... 2 | | num |
| 457 | **35366** | R | DI Compressor 7 oil pressure | WORD | | 0 ... 2 | | num |
| 458 | **35367** | R | DI Compressor 8 oil pressure | WORD | | 0 ... 2 | | num |
| 459 | **35368** | R | Fan 1 thermal switch | WORD | | 0 ... 2 | | num |
| 460 | **35369** | R | Fan 2 thermal switch | WORD | | 0 ... 2 | | num |
| 461 | **35370** | R | Fan 3 thermal switch | WORD | | 0 ... 2 | | num |
| 462 | **35371** | R | Fan 4 thermal switch | WORD | | 0 ... 2 | | num |
| 463 | **35372** | R | Fan 5 thermal switch | WORD | | 0 ... 2 | | num |
| 464 | **35373** | R | Fan 6 thermal switch | WORD | | 0 ... 2 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 465 | **35374** | R | Fan 7 thermal switch | WORD | | 0 ... 2 | | num |
| 466 | **35375** | R | Fan 8 thermal switch | WORD | | 0 ... 2 | | num |
| 467 | **35376** | R | Fan 9 thermal switch | WORD | | 0 ... 2 | | num |
| 468 | **35377** | R | Fan 10 thermal switch | WORD | | 0 ... 2 | | num |
| 469 | **35378** | R | Fan 11 thermal switch | WORD | | 0 ... 2 | | num |
| 470 | **35379** | R | Fan 12 thermal switch | WORD | | 0 ... 2 | | num |
| 471 | **35380** | R | Fan 13 thermal switch | WORD | | 0 ... 2 | | num |
| 472 | **35381** | R | Fan 14 thermal switch | WORD | | 0 ... 2 | | num |
| 473 | **35382** | R | Fan 15 thermal switch | WORD | | 0 ... 2 | | num |
| 474 | **35383** | R | Fan 16 thermal switch | WORD | | 0 ... 2 | | num |
| 475 | **35384** | R | High temperature | WORD | | 0 ... 2 | | num |
| 476 | **35385** | R | Low temperature | WORD | | 0 ... 2 | | num |
| 477 | **35386** | R | Regulation error | WORD | | 0 ... 2 | | num |
| 478 | **35387** | R | Recovery flow switch alarm | WORD | | 0 ... 2 | | num |
| 479 | **35388** | R | Heat recovery pump thermal switch | WORD | | 0 ... 2 | | num |
| 480 | **35389** | R | Free Cooling flow | WORD | | 0 ... 2 | | num |
| 481 | **35390** | R | Free Cooling pump thermal switch | WORD | | 0 ... 2 | | num |
| 482 | **35391** | R | Water pump 1 thermal switch | WORD | | 0 ... 2 | | num |
| 483 | **35392** | R | Water pump 2 thermal switch | WORD | | 0 ... 2 | | num |
| 484 | **35393** | R | Flow switch alarm | WORD | | 0 ... 2 | | num |
| 485 | **35394** | R | Pump group thermal switch | WORD | | 0 ... 2 | | num |
| 486 | **35395** | R | Pump 1 not available | WORD | | 0 ... 2 | | num |
| 487 | **35396** | R | Pump 2 not available | WORD | | 0 ... 2 | | num |
| 488 | **35397** | R | Circuit 1 OR probe errors | WORD | | 0 ... 1 | | flag |
| 489 | **35398** | R | Circuit 2 OR probe errors | WORD | | 0 ... 1 | | flag |
| 490 | **35399** | R | Circuit 3 OR probe errors | WORD | | 0 ... 1 | | flag |
| 491 | **35400** | R | Circuit 4 OR probe errors | WORD | | 0 ... 1 | | flag |
| 492 | **35401** | R | Circuit 5 OR probe errors | WORD | | 0 ... 1 | | flag |
| 493 | **35402** | R | Circuit 6 OR probe errors | WORD | | 0 ... 1 | | flag |
| 494 | **35403** | R | Circuit 7 OR probe errors | WORD | | 0 ... 1 | | flag |
| 495 | **35404** | R | Circuit 8 OR probe errors | WORD | | 0 ... 1 | | flag |
| 496 | **35405** | R | Circuit 1 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 497 | **35406** | R | Circuit 2 pd timeout alarm | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 498 | **35407** | R | Circuit 3 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 499 | **35408** | R | Circuit 4 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 500 | **35409** | R | Circuit 5 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 501 | **35410** | R | Circuit 6 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 502 | **35411** | R | Circuit 7 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 503 | **35412** | R | Circuit 8 pd timeout alarm | WORD | | 0 ... 1 | | flag |
| 504 | **35413** | R | Compressor 1 probe error | WORD | | 0 ... 1 | | flag |
| 505 | **35414** | R | Compressor 2 probe error | WORD | | 0 ... 1 | | flag |
| 506 | **35415** | R | Compressor 3 probe error | WORD | | 0 ... 1 | | flag |
| 507 | **35416** | R | Compressor 4 probe error | WORD | | 0 ... 1 | | flag |
| 508 | **35417** | R | Compressor 5 probe error | WORD | | 0 ... 1 | | flag |
| 509 | **35418** | R | Compressor 6 probe error | WORD | | 0 ... 1 | | flag |
| 510 | **35419** | R | Compressor 7 probe error | WORD | | 0 ... 1 | | flag |
| 511 | **35420** | R | Compressor 8 probe error | WORD | | 0 ... 1 | | flag |
| 512 | **35421** | R | Evaporator 1 antifreeze probe | WORD | | 0 ... 1 | | flag |
| 513 | **35422** | R | Evaporator 2 antifreeze probe | WORD | | 0 ... 1 | | flag |
| 514 | **35423** | R | Evaporator 3 antifreeze probe | WORD | | 0 ... 1 | | flag |
| 515 | **35424** | R | Evaporator 4 antifreeze probe | WORD | | 0 ... 1 | | flag |
| 516 | **35425** | R | Fan 1 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 517 | **35426** | R | Fan 2 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 518 | **35427** | R | Fan 3 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 519 | **35428** | R | Fan 4 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 520 | **35429** | R | Fan 5 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 521 | **35430** | R | Fan 6 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 522 | **35431** | R | Fan 7 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 523 | **35432** | R | Fan 8 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 524 | **35433** | R | Fan 9 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 525 | **35434** | R | Fan 10 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 526 | **35435** | R | Fan 11 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 527 | **35436** | R | Fan 12 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 528 | **35437** | R | Fan 13 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 529 | **35438** | R | Fan 14 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 530 | **35439** | R | Fan 15 thermal switch probe error | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 531 | **35440** | R | Fan 16 thermal switch probe error | WORD | | 0 ... 1 | | flag |
| 532 | **35441** | R | Rec. input temp. | WORD | | 0 ... 1 | | flag |
| 533 | **35442** | R | Recov. Temp. input error | WORD | | 0 ... 1 | | flag |
| 534 | **35443** | R | Temp. control input error | WORD | | 0 ... 1 | | flag |
| 535 | **35444** | R | Freecooling probe | WORD | | 0 ... 1 | | flag |
| 536 | **35445** | R | FC pump thermal switch | WORD | | 0 ... 1 | | flag |
| 537 | **35446** | R | Error pump 1 thermal switch | WORD | | 0 ... 1 | | flag |
| 538 | **35447** | R | Error pump 2 thermal switch | WORD | | 0 ... 1 | | flag |
| 539 | **35448** | R | Error pump  group thermal switch | WORD | | 0 ... 1 | | flag |
| 540 | **35449** | R | Minimum pressure circuit 1 | WORD | | 0 ... 3 | | num |
| 541 | **35450** | R | Minimum pressure circuit 2 | WORD | | 0 ... 3 | | num |
| 542 | **35451** | R | Minimum pressure circuit 3 | WORD | | 0 ... 3 | | num |
| 543 | **35452** | R | Minimum pressure circuit 4 | WORD | | 0 ... 3 | | num |
| 544 | **35453** | R | Minimum pressure circuit 5 | WORD | | 0 ... 3 | | num |
| 545 | **35454** | R | Minimum pressure circuit 6 | WORD | | 0 ... 3 | | num |
| 546 | **35455** | R | Minimum pressure circuit 7 | WORD | | 0 ... 3 | | num |
| 547 | **35456** | R | Minimum pressure circuit 8 | WORD | | 0 ... 3 | | num |
| 548 | **35457** | R | Evaporator 1 antifreeze | WORD | | 0 ... 3 | | num |
| 549 | **35458** | R | Evaporator 2 antifreeze | WORD | | 0 ... 3 | | num |
| 550 | **35459** | R | Evaporator 3 antifreeze | WORD | | 0 ... 3 | | num |
| 551 | **35460** | R | Evaporator 4 antifreeze | WORD | | 0 ... 3 | | num |
| 552 | **35461** | R | Anti-freeze sec. circuit 1 | WORD | | 0 ... 3 | | num |
| 553 | **35462** | R | Anti-freeze sec. circuit 2 | WORD | | 0 ... 3 | | num |
| 554 | **35463** | R | Anti-freeze sec. circuit 3 | WORD | | 0 ... 3 | | num |
| 555 | **35464** | R | Anti-freeze sec. circuit 4 | WORD | | 0 ... 3 | | num |
| 556 | **35465** | R | Anti-freeze sec. circuit 5 | WORD | | 0 ... 3 | | num |
| 557 | **35466** | R | Anti-freeze sec. circuit 6 | WORD | | 0 ... 3 | | num |
| 558 | **35467** | R | Anti-freeze sec. circuit 7 | WORD | | 0 ... 3 | | num |
| 559 | **35468** | R | Anti-freeze sec. circuit 8 | WORD | | 0 ... 3 | | num |
| 560 | **35584** | R | Combined circuit alarm 1 | WORD | | 0 ... 1 | | flag |
| 561 | **35585** | R | Combined circuit alarm 2 | WORD | | 0 ... 1 | | flag |
| 562 | **35586** | R | Combined circuit alarm 3 | WORD | | 0 ... 1 | | flag |
| 563 | **35587** | R | Combined circuit alarm 4 | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 564 | **35588** | R | Combined circuit alarm 5 | WORD | | 0 ... 1 | | flag |
| 565 | **35589** | R | Combined circuit alarm 6 | WORD | | 0 ... 1 | | flag |
| 566 | **35590** | R | Combined circuit alarm 7 | WORD | | 0 ... 1 | | flag |
| 567 | **35591** | R | Combined circuit alarm 8 | WORD | | 0 ... 1 | | flag |
| 568 | **35592** | R | Combined compressor alarm 1 | WORD | | 0 ... 1 | | flag |
| 569 | **35593** | R | Combined compressor alarm 2 | WORD | | 0 ... 1 | | flag |
| 570 | **35594** | R | Combined compressor alarm 3 | WORD | | 0 ... 1 | | flag |
| 571 | **35595** | R | Combined compressor alarm 4 | WORD | | 0 ... 1 | | flag |
| 572 | **35596** | R | Combined compressor alarm 5 | WORD | | 0 ... 1 | | flag |
| 573 | **35597** | R | Combined compressor alarm 6 | WORD | | 0 ... 1 | | flag |
| 574 | **35598** | R | Combined compressor alarm 7 | WORD | | 0 ... 1 | | flag |
| 575 | **35599** | R | Combined compressor alarm 8 | WORD | | 0 ... 1 | | flag |
| 576 | **35600** | R | Combined evaporator alarm 1 | WORD | | 0 ... 1 | | flag |
| 577 | **35601** | R | Combined evaporator alarm 2 | WORD | | 0 ... 1 | | flag |
| 578 | **35602** | R | Combined evaporator alarm 3 | WORD | | 0 ... 1 | | flag |
| 579 | **35603** | R | Combined evaporator alarm 4 | WORD | | 0 ... 1 | | flag |
| 580 | **35604** | R | Combined fan group alarm 1 | WORD | | 0 ... 1 | | flag |
| 581 | **35605** | R | Combined fan group alarm 2 | WORD | | 0 ... 1 | | flag |
| 582 | **35606** | R | Combined fan group alarm 3 | WORD | | 0 ... 1 | | flag |
| 583 | **35607** | R | Combined fan group alarm 4 | WORD | | 0 ... 1 | | flag |
| 584 | **35608** | R | Combined fan group alarm 5 | WORD | | 0 ... 1 | | flag |
| 585 | **35609** | R | Combined fan group alarm 6 | WORD | | 0 ... 1 | | flag |
| 586 | **35610** | R | Combined fan group alarm 7 | WORD | | 0 ... 1 | | flag |
| 587 | **35611** | R | Combined fan group alarm 8 | WORD | | 0 ... 1 | | flag |
| 588 | **35612** | R | Combined system alarm | WORD | | 0 ... 1 | | flag |
| 589 | **35613** | R | Combined freecooling alarm | WORD | | 0 ... 1 | | flag |
| 590 | **35614** | R | Combined heat recovery alarm | WORD | | 0 ... 1 | | flag |
| 591 | **35615** | R | Combined pump alarm 1 | WORD | | 0 ... 1 | | flag |
| 592 | **35616** | R | Combined pump alarm 2 | WORD | | 0 ... 1 | | flag |
| 593 | **35617** | R | Combined pump group alarm | WORD | | 0 ... 1 | | flag |
| 594 | **35840** | R | Circuit 1 average running time: minutes | WORD | | 0 ... 59 | | min |
| 595 | **35841** | R | Circuit 1 average running time: days | WORD | | 0 ... 32767 | | day |
| 596 | **35842** | R | Circuit 2 average running time: minutes | WORD | | 0 ... 59 | | min |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 597 | **35843** | R | Circuit 2 average running time: days | WORD | | 0 ... 32767 | | day |
| 598 | **35844** | R | Circuit 3 average running time: minutes | WORD | | 0 ... 59 | | min |
| 599 | **35845** | R | Circuit 3 average running time: days | WORD | | 0 ... 32767 | | day |
| 600 | **35846** | R | Circuit 4 average running time: minutes | WORD | | 0 ... 59 | | min |
| 601 | **35847** | R | Circuit 4 average running time: days | WORD | | 0 ... 32767 | | day |
| 602 | **35848** | R | Circuit 5 average running time: minutes | WORD | | 0 ... 59 | | min |
| 603 | **35849** | R | Circuit 5 average running time: days | WORD | | 0 ... 32767 | | day |
| 604 | **35850** | R | Circuit 6 average running time: minutes | WORD | | 0 ... 59 | | min |
| 605 | **35851** | R | Circuit 6 average running time: days | WORD | | 0 ... 32767 | | day |
| 606 | **35852** | R | Circuit 7 average running time: minutes | WORD | | 0 ... 59 | | min |
| 607 | **35853** | R | Circuit 7 average running time: days | WORD | | 0 ... 32767 | | day |
| 608 | **35854** | R | Circuit 8 average running time: minutes | WORD | | 0 ... 59 | | min |
| 609 | **35855** | R | Circuit 8 average running time: days | WORD | | 0 ... 32767 | | day |
| 610 | **35856** | R | Compressor 1 average running time: minutes | WORD | | 0 ... 59 | | min |
| 611 | **35857** | R | Compressor 1 average running time: days | WORD | | 0 ... 32767 | | day |
| 612 | **35858** | R | Compressor 2 average running time: minutes | WORD | | 0 ... 59 | | min |
| 613 | **35859** | R | Compressor 2 average running time: days | WORD | | 0 ... 32767 | | day |
| 614 | **35860** | R | Compressor 3 average running time: minutes | WORD | | 0 ... 59 | | min |
| 615 | **35861** | R | Compressor 3 average running time: days | WORD | | 0 ... 32767 | | day |
| 616 | **35862** | R | Compressor 4 average running time: minutes | WORD | | 0 ... 59 | | min |
| 617 | **35863** | R | Compressor 4 average running time: days | WORD | | 0 ... 32767 | | day |
| 618 | **35864** | R | Compressor 5 average running time: minutes | WORD | | 0 ... 59 | | min |
| 619 | **35865** | R | Compressor 5 average running time: days | WORD | | 0 ... 32767 | | day |
| 620 | **35866** | R | Compressor 6 average running time: minutes | WORD | | 0 ... 59 | | min |
| 621 | **35867** | R | Compressor 6 average running time: days | WORD | | 0 ... 32767 | | day |
| 622 | **35868** | R | Compressor 7 average running time: minutes | WORD | | 0 ... 59 | | min |
| 623 | **35869** | R | Compressor 7 average running time: days | WORD | | 0 ... 32767 | | day |
| 624 | **35870** | R | Compressor 8 average running time: minutes | WORD | | 0 ... 59 | | min |
| 625 | **35871** | R | Compressor 8 average running time: days | WORD | | 0 ... 32767 | | day |
| 626 | **35872** | R | Number of times compressor 1 switched on: units | WORD | | 0 ... 999 | | num |
| 627 | **35873** | R | Number of times compressor 1 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 628 | **35874** | R | Number of times compressor 2 switched on: units | WORD | | 0 ... 999 | | num |
| 629 | **35875** | R | Number of times compressor 2 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 630 | **35876** | R | Number of times compressor 3 switched on: units | WORD | | 0 ... 999 | | num |
| 631 | **35877** | R | Number of times compressor 3 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 632 | **35878** | R | Number of times compressor 4 switched on: units | WORD | | 0 ... 999 | | num |
| 633 | **35879** | R | Number of times compressor 4 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 634 | **35880** | R | Number of times compressor 5 switched on: units | WORD | | 0 ... 999 | | num |
| 635 | **35881** | R | Number of times compressor 5 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 636 | **35882** | R | Number of times compressor 6 switched on: units | WORD | | 0 ... 999 | | num |
| 637 | **35883** | R | Number of times compressor 6 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 638 | **35884** | R | Number of times compressor 7 switched on: units | WORD | | 0 ... 999 | | num |
| 639 | **35885** | R | Number of times compressor 7 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 640 | **35886** | R | Number of times compressor 8 switched on: units | WORD | | 0 ... 999 | | num |
| 641 | **35887** | R | Number of times compressor 8 switched on: thousands | WORD | | 0 ... 32767 | | num*1000 |
| 642 | **35888** | R | Pump 1 average running time: minutes | WORD | | 0 ... 59 | | min |
| 643 | **35889** | R | Pump 1 average running time: days | WORD | | 0 ... 32767 | | day |
| 644 | **35890** | R | Pump 2 average running time: minutes | WORD | | 0 ... 59 | | min |
| 645 | **35891** | R | Pump 2 average running time: days | WORD | | 0 ... 32767 | | day |
| 646 | **35892** | R | Temperature control steps supplied circuit 1 | WORD | | 0 ... 32 | | num |
| 647 | **35893** | R | Temperature control steps supplied circuit 2 | WORD | | 0 ... 32 | | num |
| 648 | **35894** | R | Temperature control steps supplied circuit 3 | WORD | | 0 ... 32 | | num |
| 649 | **35895** | R | Temperature control steps supplied circuit 4 | WORD | | 0 ... 32 | | num |
| 650 | **35896** | R | Temperature control steps supplied circuit 5 | WORD | | 0 ... 32 | | num |
| 651 | **35897** | R | Temperature control steps supplied circuit 6 | WORD | | 0 ... 32 | | num |
| 652 | **35898** | R | Temperature control steps supplied circuit 7 | WORD | | 0 ... 32 | | num |
| 653 | **35899** | R | Temperature control steps supplied circuit 8 | WORD | | 0 ... 32 | | num |
| 654 | **35900** | R | Temperature control steps available circuit 1 | WORD | | 0 ... 32 | | num |
| 655 | **35901** | R | Temperature control steps available circuit 2 | WORD | | 0 ... 32 | | num |
| 656 | **35902** | R | Temperature control steps available circuit 3 | WORD | | 0 ... 32 | | num |
| 657 | **35903** | R | Temperature control steps available circuit 4 | WORD | | 0 ... 32 | | num |
| 658 | **35904** | R | Temperature control steps available circuit 5 | WORD | | 0 ... 32 | | num |
| 659 | **35905** | R | Temperature control steps available circuit 6 | WORD | | 0 ... 32 | | num |
| 660 | **35906** | R | Temperature control steps available circuit 7 | WORD | | 0 ... 32 | | num |
| 661 | **35907** | R | Temperature control steps available circuit 8 | WORD | | 0 ... 32 | | num |
| 662 | **35908** | R | Temperature control steps requested | WORD | | 0 ... 32 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 663 | **35909** | R | Heat recovery short circuited 1 | WORD | | 0 … 1 | | flag |
| 664 | **35910** | R | Heat recovery short circuited 2 | WORD | | 0 … 1 | | flag |
| 665 | **35911** | R | Heat recovery short circuited 3 | WORD | | 0 … 1 | | flag |
| 666 | **35912** | R | Heat recovery short circuited 4 | WORD | | 0 … 1 | | flag |
| 667 | **35913** | R | Heat recovery short circuited 5 | WORD | | 0 … 1 | | flag |
| 668 | **35914** | R | Heat recovery short circuited 6 | WORD | | 0 … 1 | | flag |
| 669 | **35915** | R | Heat recovery short circuited 7 | WORD | | 0 … 1 | | flag |
| 670 | **35916** | R | Heat recovery short circuited 8 | WORD | | 0 … 1 | | flag |
| 671 | **35917** | R | Freecooling shortcircuited 1 | WORD | | 0 … 1 | | flag |
| 672 | **35918** | R | Freecooling shortcircuited 2 | WORD | | 0 … 1 | | flag |
| 673 | **35919** | R | Freecooling shortcircuited 3 | WORD | | 0 … 1 | | flag |
| 674 | **35920** | R | Freecooling shortcircuited 4 | WORD | | 0 … 1 | | flag |
| 675 | **35921** | R | Freecooling shortcircuited 5 | WORD | | 0 … 1 | | flag |
| 676 | **35922** | R | Freecooling shortcircuited 6 | WORD | | 0 … 1 | | flag |
| 677 | **35923** | R | Freecooling shortcircuited 7 | WORD | | 0 … 1 | | flag |
| 678 | **35924** | R | Freecooling shortcircuited 8 | WORD | | 0 … 1 | | flag |
| 679 | **35925** | R | Shotdown running | WORD | | 0 … 1 | | flag |
| 680 | **35926** | R | Pumpdown underway in circuit 1 | WORD | | 0 … 1 | | flag |
| 681 | **35927** | R | Pumpdown underway in circuit 2 | WORD | | 0 … 1 | | flag |
| 682 | **35928** | R | Pumpdown underway in circuit 3 | WORD | | 0 … 1 | | flag |
| 683 | **35929** | R | Pumpdown underway in circuit 4 | WORD | | 0 … 1 | | flag |
| 684 | **35930** | R | Pumpdown underway in circuit 5 | WORD | | 0 … 1 | | flag |
| 685 | **35931** | R | Pumpdown underway in circuit 6 | WORD | | 0 … 1 | | flag |
| 686 | **35932** | R | Pumpdown underway in circuit 7 | WORD | | 0 … 1 | | flag |
| 687 | **35933** | R | Pumpdown underway in circuit 8 | WORD | | 0 … 1 | | flag |
| 688 | **35934** | R | Defrost underway in circuit 1 | WORD | | 0 … 1 | | flag |
| 689 | **35935** | R | Defrost underway in circuit 2 | WORD | | 0 … 1 | | flag |
| 690 | **35936** | R | Defrost underway in circuit 3 | WORD | | 0 … 1 | | flag |
| 691 | **35937** | R | Defrost underway in circuit 4 | WORD | | 0 … 1 | | flag |
| 692 | **35938** | R | Defrost underway in circuit 5 | WORD | | 0 … 1 | | flag |
| 693 | **35939** | R | Defrost underway in circuit 6 | WORD | | 0 … 1 | | flag |
| 694 | **35940** | R | Defrost underway in circuit 7 | WORD | | 0 … 1 | | flag |
| 695 | **35941** | R | Defrost underway in circuit 8 | WORD | | 0 … 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 696 | **35942** | R | System status | WORD | | 0 ... 3 | | num |
| 697 | **35943** | R | Temperature control steps supplied by compressor 1 | WORD | | 0 ... 4 | | num |
| 698 | **35944** | R | Temperature control steps supplied by compressor 2 | WORD | | 0 ... 4 | | num |
| 699 | **35945** | R | Temperature control steps supplied by compressor 3 | WORD | | 0 ... 4 | | num |
| 700 | **35946** | R | Temperature control steps supplied by compressor 4 | WORD | | 0 ... 4 | | num |
| 701 | **35947** | R | Temperature control steps supplied by compressor 5 | WORD | | 0 ... 4 | | num |
| 702 | **35948** | R | Temperature control steps supplied by compressor 6 | WORD | | 0 ... 4 | | num |
| 703 | **35949** | R | Temperature control steps supplied by compressor 7 | WORD | | 0 ... 4 | | num |
| 704 | **35950** | R | Temperature control steps supplied by compressor 8 | WORD | | 0 ... 4 | | num |
| 705 | **35951** | R | On-off and off-on 0=running safety times compressor 1 | WORD | | 0 ... 7 | | num |
| 706 | **35952** | R | On-off and off-on 0=running safety times compressor 2 | WORD | | 0 ... 7 | | num |
| 707 | **35953** | R | On-off and off-on 0=running safety times compressor 3 | WORD | | 0 ... 7 | | num |
| 708 | **35954** | R | On-off and off-on 0=running safety times compressor 4 | WORD | | 0 ... 7 | | num |
| 709 | **35955** | R | On-off and off-on 0=running safety times compressor 5 | WORD | | 0 ... 7 | | num |
| 710 | **35956** | R | On-off and off-on 0=running safety times compressor 6 | WORD | | 0 ... 7 | | num |
| 711 | **35957** | R | On-off and off-on 0=running safety times compressor 7 | WORD | | 0 ... 7 | | num |
| 712 | **35958** | R | On-off and off-on 0=running safety times compressor 8 | WORD | | 0 ... 7 | | num |
| 713 | **35959** | R | Power rising time 0=compressor 1 running | WORD | | 0 ... 7 | | num |
| 714 | **35960** | R | Power rising time 0=compressor 2 running | WORD | | 0 ... 7 | | num |
| 715 | **35961** | R | Power rising time 0=compressor 3 running | WORD | | 0 ... 7 | | num |
| 716 | **35962** | R | Power rising time 0=compressor 4 running | WORD | | 0 ... 7 | | num |
| 717 | **35963** | R | Power rising time 0=compressor 5 running | WORD | | 0 ... 7 | | num |
| 718 | **35964** | R | Power rising time 0=compressor 6 running | WORD | | 0 ... 7 | | num |
| 719 | **35965** | R | Power rising time 0=compressor 7 running | WORD | | 0 ... 7 | | num |
| 720 | **35966** | R | Power rising time 0=compressor 8 running | WORD | | 0 ... 7 | | num |
| 721 | **35967** | R | Power step falling time 0=compressor 1 running | WORD | | 0 ... 7 | | num |
| 722 | **35968** | R | Power step falling time 0=compressor 2 running | WORD | | 0 ... 7 | | num |
| 723 | **35969** | R | Power step falling time 0=compressor 3 running | WORD | | 0 ... 7 | | num |
| 724 | **35970** | R | Power step falling time 0=compressor 4 running | WORD | | 0 ... 7 | | num |
| 725 | **35971** | R | Power step falling time 0=compressor 5 running | WORD | | 0 ... 7 | | num |
| 726 | **35972** | R | Power step falling time 0=compressor 6 running | WORD | | 0 ... 7 | | num |
| 727 | **35973** | R | Power step falling time 0=compressor 7 running | WORD | | 0 ... 7 | | num |
| 728 | **35974** | R | Power step falling time 0=compressor 8 running | WORD | | 0 ... 7 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 729 | **36096** | R | Alpha-BIOS probe primary input temperature error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 730 | **36097** | R | Alpha-BIOS probe primary output (or joint) temperature error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 731 | **36098** | R | Primary input temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 732 | **36099** | R | Recovery input temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 733 | **36100** | R | Primary output evaporator 1 temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 734 | **36101** | R | Primary output evaporator 2 temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 735 | **36102** | R | Primary output evaporator 3 temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 736 | **36103** | R | Primary output evaporator 4 temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 737 | **36104** | R | Primary output temperature joint probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 738 | **36105** | R | Circuit 1 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 739 | **36106** | R | Circuit 2 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 740 | **36107** | R | Circuit 3 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 741 | **36108** | R | Circuit 4 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 742 | **36109** | R | Circuit 5 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 743 | **36110** | R | Circuit 6 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 744 | **36111** | R | Circuit 7 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 745 | **36112** | R | Circuit 8 condenser temperature probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 746 | **36113** | R | Error special probe for condenser temperature during circuit 1 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 747 | **36114** | R | Error special probe for condenser temperature during circuit 2 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 748 | **36115** | R | Error special probe for condenser temperature during circuit 3 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 749 | **36116** | R | Error special probe for condenser temperature during circuit 4 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 750 | **36117** | R | Error special probe for condenser temperature during circuit 5 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 751 | **36118** | R | Error special probe for condenser temperature during circuit 6 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 752 | **36119** | R | Error special probe for condenser temperature during circuit 7 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 753 | **36120** | R | Error special probe for condenser temperature during circuit 8 defrost | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 754 | **36121** | R | Compressor discharge temperature analogue probe error 1 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 755 | **36122** | R | Compressor discharge temperature analogue probe error 2 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 756 | **36123** | R | Compressor discharge temperature analogue probe error 3 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 757 | **36124** | R | Compressor discharge temperature analogue probe error 4 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 758 | **36125** | R | Compressor discharge temperature analogue probe error 5 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 759 | **36126** | R | Compressor discharge temperature analogue probe error 6 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 760 | **36127** | R | Compressor discharge temperature analogue probe error 7 | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 761 | **36128** | R | Compressor discharge temperature analogue probe error 8 | WORD | Y | -500 ... 1500 | -1 | °C/°F |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 762 | **36129** | R | Free-cooling probe error | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 763 | **36130** | R | Circuit 1 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 764 | **36131** | R | Circuit 2 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 765 | **36132** | R | Circuit 3 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 766 | **36133** | R | Circuit 4 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 767 | **36134** | R | Circuit 5 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 768 | **36135** | R | Circuit 6 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 769 | **36136** | R | Circuit 7 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 770 | **36137** | R | Circuit 8 maximum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 771 | **36138** | R | Error special probe for condenser pressure during circuit 1 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 772 | **36139** | R | Error special probe for condenser pressure during circuit 2 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 773 | **36140** | R | Error special probe for condenser pressure during circuit 3 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 774 | **36141** | R | Error special probe for condenser pressure during circuit 4 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 775 | **36142** | R | Error special probe for condenser pressure during circuit 5 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 776 | **36143** | R | Error special probe for condenser pressure during circuit 6 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 777 | **36144** | R | Error special probe for condenser pressure during circuit 7 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 778 | **36145** | R | Error special probe for condenser pressure during circuit 8 defrost | WORD | Y | -10 ... 1000 | -1 | Bar |
| 779 | **36146** | R | Circuit 1 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 780 | **36147** | R | Circuit 2 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 781 | **36148** | R | Circuit 3 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 782 | **36149** | R | Circuit 4 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 783 | **36150** | R | Circuit 5 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 784 | **36151** | R | Circuit 6 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 785 | **36152** | R | Circuit 7 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 786 | **36153** | R | Circuit 8 minimum* pressure analogue probe error (* in chilling) | WORD | Y | -10 ... 1000 | -1 | Bar |
| 787 | **36154** | R | Compressor 1 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 788 | **36155** | R | Compressor 2 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 789 | **36156** | R | Compressor 3 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 790 | **36157** | R | Compressor 4 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 791 | **36158** | R | Compressor 5 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 792 | **36159** | R | Compressor 6 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 793 | **36160** | R | Compressor 7 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |
| 794 | **36161** | R | Compressor 8 oil pressure probe error | WORD | Y | -10 ... 1000 | -1 | Bar |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 795 | **36162** | R | Error external temperature probe for dynamic Tset | WORD | Y | -500 ... 1500 | -1 | °C/°F |
| 796 | **36163** | R | Current probe for dynamic Tset error | WORD | | 4 ... 20 | | mA |
| 797 | **36164** | R | Cycle time for PID regulation | WORD | | 0 ... 65535 | | sec/10 |
| 798 | **36352** | R | External expansion communication timeout alarm | WORD | | 0 ... 1 | | flag |
| 799 | **36353** | R | External expansion 1 communication timeout alarm | WORD | | 0 ... 1 | | flag |
| 800 | **36354** | R | External expansion 2 communication timeout alarm | WORD | | 0 ... 1 | | flag |
| 801 | **36355** | R | External expansion 3 communication timeout alarm | WORD | | 0 ... 1 | | flag |
| 802 | **36356** | R | External expansion 4 communication timeout alarm | WORD | | 0 ... 1 | | flag |
| 803 | **36357** | R | External eeprom CRC error alarm | WORD | | 0 ... 1 | | flag |
| 804 | **36358** | R | BC_ERR instruction executed alarm | WORD | | 0 ... 1 | | flag |
| 805 | **36359** | R | RTA battery low alarm | WORD | | 0 ... 1 | | flag |
| 806 | **36360** | R | RTC communication error alarm | WORD | | 0 ... 1 | | flag |
| 807 | **36361** | R | Alarm RTC register value not consistent | WORD | | 0 ... 1 | | flag |
| 808 | **36362** | R | Alarm number of digital outputs not supported by HW | WORD | | 0 ... 1 | | flag |
| 809 | **36363** | R | Alarm number of analogue outputs not supported by HW | WORD | | 0 ... 1 | | flag |
| 810 | **36364** | R | Alarm number of high digital inputs not supported by HW | WORD | | 0 ... 1 | | flag |
| 811 | **36365** | R | Alarm temperature probe number not supported by HW | WORD | | 0 ... 1 | | flag |
| 812 | **36366** | R | Alarm number of low digital inputs not supported by HW | WORD | | 0 ... 1 | | flag |
| 813 | **36367** | R | Alarm pressure probe number not supported by HW | WORD | | 0 ... 1 | | flag |
| 814 | **36368** | R | Alarm "constraint" number evaporators/circuits/compressors | WORD | | 0 ... 1 | | flag |
| 815 | **36369** | R | Black box drive open or write error alarm | WORD | | 0 ... 1 | | flag |
| 816 | **36370** | R | Modem connection error alarm | WORD | | 0 ... 1 | | flag |
| 817 | **36371** | R | Modem hardware error alarm | WORD | | 0 ... 1 | | flag |
| 818 | **36372** | R | Modem software error alarm | WORD | | 0 ... 1 | | flag |
| 819 | **60416** | R | Pump 1 running time counter status | WORD | | 0 ... 3 | | num |
| 820 | **60417** | R | Hours pump 1 running | WORD | | 0 ... 32767 | | day |
| 821 | **60418** | R | Minutes running pump 1 | WORD | | 0 ... 59 | | min |
| 822 | **60432** | R | Pump 2 running time counter status | WORD | | 0 ... 3 | | num |
| 823 | **60433** | R | Hours pump 2 running | WORD | | 0 ... 32767 | | day |
| 824 | **60434** | R | Minutes running pump 2 | WORD | | 0 ... 59 | | min |
| 825 | **36864** | R | Location reserved for PARAM MANAGER | WORD | | 0 ... 1 | | flag |
| 826 | **36865** | R | Current date and time in 20-character string format | WORD | | 0 ... 20 | | String |
| 827 | **36866** | R | Current time in 5-character string format | WORD | | 0 ... 5 | | String |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 828 | **36867** | R | Number of current page in 5-character string format | WORD | | 0 ... 5 | | String |
| 829 | **36868** | R | Simulation mode | WORD | | 0 ... 1 | | flag |
| 830 | **36869** | R | Start day for time settings copy function | WORD | | 0 ... 6 | | day |
| 831 | **36870** | R | Copied to Sunday | WORD | | 0 ... 1 | | flag |
| 832 | **36871** | R | Copied to Monday | WORD | | 0 ... 1 | | flag |
| 833 | **36872** | R | Copied to Tuesday | WORD | | 0 ... 1 | | flag |
| 834 | **36873** | R | Copied to Wednesday | WORD | | 0 ... 1 | | flag |
| 835 | **36874** | R | Copied to Thursday | WORD | | 0 ... 1 | | flag |
| 836 | **36875** | R | Copied to Friday | WORD | | 0 ... 1 | | flag |
| 837 | **36876** | R | Copied to Saturday | WORD | | 0 ... 1 | | flag |
| 838 | **36877** | R | Reason for call | WORD | | 0 ... 6 | | num |
| 839 | **37120** | R | Historical alarm data: number of alarms present | WORD | | 0 ... 99 | | num |
| 840 | **37121** | R | Historical alarm data: First alarm index | WORD | | 0 ... 99 | | num |
| 841 | **37122** | R | Historical alarm data: Last alarm index | WORD | | 0 ... 99 | | num |
| 842 | **38656** | R | Circuit 1 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 843 | **38657** | R | Circuit 2 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 844 | **38658** | R | Circuit 3 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 845 | **38659** | R | Circuit 4 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 846 | **38660** | R | Circuit 5 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 847 | **38661** | R | Circuit 6 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 848 | **38662** | R | Circuit 7 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 849 | **38663** | R | Circuit 8 (in chilling) maximum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 850 | **38664** | R | Circuit 1 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 851 | **38665** | R | Circuit 2 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 852 | **38666** | R | Circuit 3 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 853 | **38667** | R | Circuit 4 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 854 | **38668** | R | Circuit 5 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 855 | **38669** | R | Circuit 6 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 856 | **38670** | R | Circuit 7 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 857 | **38671** | R | Circuit 8 (in chilling) minimum pressure pressure switch polarity | WORD | | 0 ... 1 | | flag |
| 858 | **38672** | R | Compressor 1 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 859 | **38673** | R | Compressor 2 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 860 | **38674** | R | Compressor 3 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 861 | **38675** | R | Compressor 4 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 862 | **38676** | R | Compressor 5 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 863 | **38677** | R | Compressor 6 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 864 | **38678** | R | Compressor 7 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 865 | **38679** | R | Compressor 8 motor thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 866 | **38680** | R | Compressor 1 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 867 | **38681** | R | Compressor 2 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 868 | **38682** | R | Compressor 3 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 869 | **38683** | R | Compressor 4 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 870 | **38684** | R | Compressor 5 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 871 | **38685** | R | Compressor 6 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 872 | **38686** | R | Compressor 7 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 873 | **38687** | R | Compressor 8 discharge temperature digital probe polarity | WORD | | 0 ... 1 | | flag |
| 874 | **38688** | R | Compressor 1 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 875 | **38689** | R | Compressor 2 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 876 | **38690** | R | Compressor 3 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 877 | **38691** | R | Compressor 4 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 878 | **38692** | R | Compressor 5 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 879 | **38693** | R | Compressor 6 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 880 | **38694** | R | Compressor 7 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 881 | **38695** | R | Compressor 8 oil pressure digital probe polarity | WORD | | 0 ... 1 | | flag |
| 882 | **38696** | R | Primary circuit flow switch polarity | WORD | | 0 ... 1 | | flag |
| 883 | **38697** | R | Secondary circuit flow switch polarity | WORD | | 0 ... 1 | | flag |
| 884 | **38698** | R | Free cooling circuit flow switch polarity | WORD | | 0 ... 1 | | flag |
| 885 | **38699** | R | Summer/winter switching polarity | WORD | | 0 ... 1 | | flag |
| 886 | **38700** | R | Circuit 1 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 887 | **38701** | R | Circuit 2 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 888 | **38702** | R | Circuit 3 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 889 | **38703** | R | Circuit 4 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 890 | **38704** | R | Circuit 5 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 891 | **38705** | R | Circuit 6 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 892 | **38706** | R | Circuit 7 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |
| 893 | **38707** | R | Circuit 8 pump down special digital input polarity | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 894 | **38708** | R | Circuit 1 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 895 | **38709** | R | Circuit 2 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 896 | **38710** | R | Circuit 3 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 897 | **38711** | R | Circuit 4 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 898 | **38712** | R | Circuit 5 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 899 | **38713** | R | Circuit 6 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 900 | **38714** | R | Circuit 7 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 901 | **38715** | R | Circuit 8 heat recovery pressure special digital input polarity | WORD | | 0 ... 1 | | flag |
| 902 | **38716** | R | Circuit 1 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 903 | **38717** | R | Circuit 2 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 904 | **38718** | R | Circuit 3 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 905 | **38719** | R | Circuit 4 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 906 | **38720** | R | Circuit 5 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 907 | **38721** | R | Circuit 6 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 908 | **38722** | R | Circuit 7 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 909 | **38723** | R | Circuit 8 fan control temperature digital input polarity | WORD | | 0 ... 1 | | flag |
| 910 | **38724** | R | Fan 1 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 911 | **38725** | R | Fan 2 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 912 | **38726** | R | Fan 3 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 913 | **38727** | R | Fan 4 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 914 | **38728** | R | Fan 5 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 915 | **38729** | R | Fan 6 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 916 | **38730** | R | Fan 7 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 917 | **38731** | R | Fan 8 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 918 | **38732** | R | Fan 9 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 919 | **38733** | R | Fan 10 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 920 | **38734** | R | Fan 11 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 921 | **38735** | R | Fan 12 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 922 | **38736** | R | Fan 13 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 923 | **38737** | R | Fan 14 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 924 | **38738** | R | Fan 15 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 925 | **38739** | R | Fan 16 fan thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 926 | **38740** | R | Remote polarity On/Off | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 927 | **38741** | R | Pump group thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 928 | **38742** | R | Pump 1 primary circuit pump thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 929 | **38743** | R | Pump 2 primary circuit pump thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 930 | **38744** | R | Secondary circuit pump thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 931 | **38745** | R | Free cooling pump thermal switch polarity | WORD | | 0 ... 1 | | flag |
| 932 | **38912** | R | Cumulative machine alarm relay polarity | WORD | | 0 ... 1 | | flag |
| 933 | **38913** | R | Compressor 1 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 934 | **38914** | R | Compressor 2 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 935 | **38915** | R | Compressor 3 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 936 | **38916** | R | Compressor 4 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 937 | **38917** | R | Compressor 5 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 938 | **38918** | R | Compressor 6 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 939 | **38919** | R | Compressor 7 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 940 | **38920** | R | Compressor 8 relay star start polarity | WORD | | 0 ... 1 | | flag |
| 941 | **38921** | R | Compressor 1 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 942 | **38922** | R | Compressor 2 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 943 | **38923** | R | Compressor 3 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 944 | **38924** | R | Compressor 4 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 945 | **38925** | R | Compressor 5 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 946 | **38926** | R | Compressor 6 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 947 | **38927** | R | Compressor 7 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 948 | **38928** | R | Compressor 8 relay triangle start polarity | WORD | | 0 ... 1 | | flag |
| 949 | **38929** | R | Evaporator 1 primary circuit antifreeze polarity | WORD | | 0 ... 1 | | flag |
| 950 | **38930** | R | Evaporator 2 primary circuit antifreeze polarity | WORD | | 0 ... 1 | | flag |
| 951 | **38931** | R | Evaporator 3 primary circuit antifreeze polarity | WORD | | 0 ... 1 | | flag |
| 952 | **38932** | R | Evaporator 4 primary circuit antifreeze polarity | WORD | | 0 ... 1 | | flag |
| 953 | **38933** | R | Compressor 1 start  polarity | WORD | | 0 ... 1 | | flag |
| 954 | **38934** | R | Compressor 2 start  polarity | WORD | | 0 ... 1 | | flag |
| 955 | **38935** | R | Compressor 3 start  polarity | WORD | | 0 ... 1 | | flag |
| 956 | **38936** | R | Compressor 4 start  polarity | WORD | | 0 ... 1 | | flag |
| 957 | **38937** | R | Compressor 5 start  polarity | WORD | | 0 ... 1 | | flag |
| 958 | **38938** | R | Compressor 6 start  polarity | WORD | | 0 ... 1 | | flag |
| 959 | **38939** | R | Compressor 7 start  polarity | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 960 | **38940** | R | Compressor 8 start  polarity | WORD | | 0 ... 1 | | flag |
| 961 | **38941** | R | Compressor 1 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 962 | **38942** | R | Compressor 2 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 963 | **38943** | R | Compressor 3 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 964 | **38944** | R | Compressor 4 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 965 | **38945** | R | Compressor 5 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 966 | **38946** | R | Compressor 6 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 967 | **38947** | R | Compressor 7 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 968 | **38948** | R | Compressor 8 relay part winding polarity | WORD | | 0 ... 1 | | flag |
| 969 | **38949** | R | Fan 1 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 970 | **38950** | R | Fan 2 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 971 | **38951** | R | Fan 3 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 972 | **38952** | R | Fan 4 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 973 | **38953** | R | Fan 5 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 974 | **38954** | R | Fan 6 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 975 | **38955** | R | Fan 7 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 976 | **38956** | R | Fan 8 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 977 | **38957** | R | Fan 9 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 978 | **38958** | R | Fan 10 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 979 | **38959** | R | Fan 11 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 980 | **38960** | R | Fan 12 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 981 | **38961** | R | Fan 13 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 982 | **38962** | R | Fan 14 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 983 | **38963** | R | Fan 15 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 984 | **38964** | R | Fan 16 digital relay polarity | WORD | | 0 ... 1 | | flag |
| 985 | **38965** | R | Circuit 1 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 986 | **38966** | R | Circuit 2 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 987 | **38967** | R | Circuit 3 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 988 | **38968** | R | Circuit 4 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 989 | **38969** | R | Circuit 5 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 990 | **38970** | R | Circuit 6 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 991 | **38971** | R | Circuit 7 solenoid valve polarity | WORD | | 0 ... 1 | | flag |
| 992 | **38972** | R | Circuit 8 solenoid valve polarity | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 993 | **38973** | R | Circuit 1 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 994 | **38974** | R | Circuit 2 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 995 | **38975** | R | Circuit 3 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 996 | **38976** | R | Circuit 4 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 997 | **38977** | R | Circuit 5 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 998 | **38978** | R | Circuit 6 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 999 | **38979** | R | Circuit 7 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 1000 | **38980** | R | Circuit 8 inversion valve polarity | WORD | | 0 ... 1 | | flag |
| 1001 | **38981** | R | Circuit 1 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1002 | **38982** | R | Circuit 2 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1003 | **38983** | R | Circuit 3 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1004 | **38984** | R | Circuit 4 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1005 | **38985** | R | Circuit 5 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1006 | **38986** | R | Circuit 6 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1007 | **38987** | R | Circuit 7 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1008 | **38988** | R | Circuit 8 three-way valve polarity | WORD | | 0 ... 1 | | flag |
| 1009 | **38989** | R | Heat Recovery pump polarity | WORD | | 0 ... 1 | | flag |
| 1010 | **38990** | R | Free Cooling pump polarity | WORD | | 0 ... 1 | | flag |
| 1011 | **38991** | R | Primary water circuit pump group polarity | WORD | | 0 ... 1 | | flag |
| 1012 | **38992** | R | Pump 1 polarity | WORD | | 0 ... 1 | | flag |
| 1013 | **38993** | R | Pump 2 polarity | WORD | | 0 ... 1 | | flag |
| 1014 | **38994** | R | Compressor 1 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1015 | **38995** | R | Compressor 1 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1016 | **38996** | R | Compressor 1 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1017 | **38997** | R | Compressor 2 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1018 | **38998** | R | Compressor 2 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1019 | **38999** | R | Compressor 2 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1020 | **39000** | R | Compressor 3 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1021 | **39001** | R | Compressor 3 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1022 | **39002** | R | Compressor 3 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1023 | **39003** | R | Compressor 4 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1024 | **39004** | R | Compressor 4 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1025 | **39005** | R | Compressor 4 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 1026 | **39006** | R | Compressor 5 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1027 | **39007** | R | Compressor 5 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1028 | **39008** | R | Compressor 5 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1029 | **39009** | R | Compressor 6 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1030 | **39010** | R | Compressor 6 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1031 | **39011** | R | Compressor 6 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1032 | **39012** | R | Compressor 7 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1033 | **39013** | R | Compressor 7 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1034 | **39014** | R | Compressor 7 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1035 | **39015** | R | Compressor 8 splitter 1 relay polarity | WORD | | 0 ... 1 | | flag |
| 1036 | **39016** | R | Compressor 8 splitter 2 relay polarity | WORD | | 0 ... 1 | | flag |
| 1037 | **39017** | R | Compressor 8 splitter 3 relay polarity | WORD | | 0 ... 1 | | flag |
| 1038 | **39018** | R | Circuit 1 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1039 | **39019** | R | Circuit 2 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1040 | **39020** | R | Circuit 3 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1041 | **39021** | R | Circuit 4 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1042 | **39022** | R | Circuit 5 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1043 | **39023** | R | Circuit 6 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1044 | **39024** | R | Circuit 7 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1045 | **39025** | R | Circuit 8 condenser heater polarity | WORD | | 0 ... 1 | | flag |
| 1046 | **39026** | R | Compressor 1 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1047 | **39027** | R | Compressor 2 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1048 | **39028** | R | Compressor 3 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1049 | **39029** | R | Compressor 4 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1050 | **39030** | R | Compressor 5 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1051 | **39031** | R | Compressor 6 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1052 | **39032** | R | Compressor 7 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1053 | **39033** | R | Compressor 8 relay liquid injection polarity | WORD | | 0 ... 1 | | flag |
| 1054 | **39034** | R | Secondary circuit antifreeze heater polarity | WORD | | 0 ... 1 | | flag |
| 1055 | **60672** | R | Compressor 1 running time counter status | WORD | | 0 ... 3 | | num |
| 1056 | **60673** | R | Hours compressor 1 running | WORD | | 0 ... 32767 | | day |
| 1057 | **60674** | R | Minutes running compressor 1 | WORD | | 0 ... 59 | | min |
| 1058 | **60675** | R | Number of times compressor 1 switched on (units) | WORD | | 0 ... 999 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 1059 | **60676** | R | Number of times compressor 1 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1060 | **60677** | R | Full power - partial power compressor 1 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1061 | **60678** | R | Full power - partial power compressor 1 mode | WORD | | 0 ... 5 | | num |
| 1062 | **60679** | R | Compressor 1 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1063 | **60680** | R | Compressor 1 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1064 | **60681** | R | Compressor 1 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1065 | **60682** | R | Compressor 1 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1066 | **60688** | R | Compressor 2 running time counter status | WORD | | 0 ... 3 | | num |
| 1067 | **60689** | R | Hours compressor 2 running | WORD | | 0 ... 32767 | | day |
| 1068 | **60690** | R | Minutes running compressor 2 | WORD | | 0 ... 59 | | min |
| 1069 | **60691** | R | Number of times compressor 2 switched on (units) | WORD | | 0 ... 999 | | num |
| 1070 | **60692** | R | Number of times compressor 2 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1071 | **60693** | R | Full power - partial power compressor 2 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1072 | **60694** | R | Full power - partial power compressor 2 mode | WORD | | 0 ... 5 | | num |
| 1073 | **60695** | R | Compressor 2 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1074 | **60696** | R | Compressor 2 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1075 | **60697** | R | Compressor 2 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1076 | **60698** | R | Compressor 2 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1077 | **60704** | R | Compressor 3 running time counter status | WORD | | 0 ... 3 | | num |
| 1078 | **60705** | R | Hours compressor 3 running | WORD | | 0 ... 32767 | | day |
| 1079 | **60706** | R | Minutes running compressor 3 | WORD | | 0 ... 59 | | min |
| 1080 | **60707** | R | Number of times compressor 3 switched on (units) | WORD | | 0 ... 999 | | num |
| 1081 | **60708** | R | Number of times compressor 3 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1082 | **60709** | R | Full power - partial power compressor 3 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1083 | **60710** | R | Full power - partial power compressor 3 mode | WORD | | 0 ... 5 | | num |
| 1084 | **60711** | R | Compressor 3 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1085 | **60712** | R | Compressor 3 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1086 | **60713** | R | Compressor 3 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1087 | **60714** | R | Compressor 3 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1088 | **60720** | R | Compressor 4 running time counter status | WORD | | 0 ... 3 | | num |
| 1089 | **60721** | R | Hours compressor 4 running | WORD | | 0 ... 32767 | | day |
| 1090 | **60722** | R | Minutes running compressor 4 | WORD | | 0 ... 59 | | min |
| 1091 | **60723** | R | Number of times compressor 4 switched on (units) | WORD | | 0 ... 999 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 1092 | **60724** | R | Number of times compressor 4 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1093 | **60725** | R | Full power - partial power compressor 4 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1094 | **60726** | R | Full power - partial power compressor 4 mode | WORD | | 0 ... 5 | | num |
| 1095 | **60727** | R | Compressor 4 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1096 | **60728** | R | Compressor 4 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1097 | **60729** | R | Compressor 4 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1098 | **60730** | R | Compressor 4 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1099 | **60736** | R | Compressor 5 running time counter status | WORD | | 0 ... 3 | | num |
| 1100 | **60737** | R | Hours compressor 5 running | WORD | | 0 ... 32767 | | day |
| 1101 | **60738** | R | Minutes running compressor 5 | WORD | | 0 ... 59 | | min |
| 1102 | **60739** | R | Number of times compressor 5 switched on (units) | WORD | | 0 ... 999 | | num |
| 1103 | **60740** | R | Number of times compressor 5 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1104 | **60741** | R | Full power - partial power compressor 5 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1105 | **60742** | R | Full power - partial power compressor 5 mode | WORD | | 0 ... 5 | | num |
| 1106 | **60743** | R | Compressor 5 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1107 | **60744** | R | Compressor 5 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1108 | **60745** | R | Compressor 5 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1109 | **60746** | R | Compressor 5 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1110 | **60752** | R | Compressor 6 running time counter status | WORD | | 0 ... 3 | | num |
| 1111 | **60753** | R | Hours compressor 6 running | WORD | | 0 ... 32767 | | day |
| 1112 | **60754** | R | Minutes running compressor 6 | WORD | | 0 ... 59 | | min |
| 1113 | **60755** | R | Number of times compressor 6 switched on (units) | WORD | | 0 ... 999 | | num |
| 1114 | **60756** | R | Number of times compressor 6 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1115 | **60757** | R | Full power - partial power compressor 6 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1116 | **60758** | R | Full power - partial power compressor 6 mode | WORD | | 0 ... 5 | | num |
| 1117 | **60759** | R | Compressor 6 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1118 | **60760** | R | Compressor 6 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1119 | **60761** | R | Compressor 6 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1120 | **60762** | R | Compressor 6 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1121 | **60768** | R | Compressor 7 running time counter status | WORD | | 0 ... 3 | | num |
| 1122 | **60769** | R | Hours compressor 7 running | WORD | | 0 ... 32767 | | day |
| 1123 | **60770** | R | Minutes running compressor 7 | WORD | | 0 ... 59 | | min |
| 1124 | **60771** | R | Number of times compressor 7 switched on (units) | WORD | | 0 ... 999 | | num |

| INDEX | ADDRESS [DEC] | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|
| 1125 | **60772** | R | Number of times compressor 7 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1126 | **60773** | R | Full power - partial power compressor 7 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1127 | **60774** | R | Full power - partial power compressor 7 mode | WORD | | 0 ... 5 | | num |
| 1128 | **60775** | R | Compressor 7 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1129 | **60776** | R | Compressor 7 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1130 | **60777** | R | Compressor 7 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1131 | **60778** | R | Compressor 7 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1132 | **60784** | R | Compressor 8 running time counter status | WORD | | 0 ... 3 | | num |
| 1133 | **60785** | R | Hours compressor 8 running | WORD | | 0 ... 32767 | | day |
| 1134 | **60786** | R | Minutes running compressor 8 | WORD | | 0 ... 59 | | min |
| 1135 | **60787** | R | Number of times compressor 8 switched on (units) | WORD | | 0 ... 999 | | num |
| 1136 | **60788** | R | Number of times compressor 8 switched on (thousands) | WORD | | 0 ... 32767 | | num*1000 |
| 1137 | **60789** | R | Full power - partial power compressor 8 mode prior to alarm | WORD | | 0 ... 5 | | num |
| 1138 | **60790** | R | Full power - partial power compressor 8 mode | WORD | | 0 ... 5 | | num |
| 1139 | **60791** | R | Compressor 8 full power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1140 | **60792** | R | Compressor 8 full power counter value | WORD | | 0 ... 32767 | | sec/10 |
| 1141 | **60793** | R | Compressor 8 partial power mode counter status (sec) | WORD | | 0 ... 7 | | num |
| 1142 | **60794** | R | Compressor 8 partial power counter value | WORD | | 0 ... 32767 | | sec/10 |

**N.B.: The colour of the ADDRESS column indicates addresses belonging to the same area.**
**N.B.: [E2] indicates that the state/variable is saved in non-volatile memory.**

# 7 COMANDI MODBUS PER LETTURA O SCRITTURA I/O

## 7.1 Commands 3 and 16

### 7.1.1 Sensor addresses with Modbus command 3 or 16

The return value of each individual sensor is a number that expresses the temperature or pressure measured in tenths. The range is from –32768 to +32767. If the sensor measures –32768, an error has occurred.

E.g. if sensor AI2 reads 245, it means that it has measured 24.5°C or 24.5°F depending on sensor parameter *configuration*.

| *Modbus* address | | Sensor | Network |
|---|---|---|---|
| [DEC] | [HEX] | | |
| 192 | 00C0 | AI1 | XTM |
| 193 | 00C1 | AI2 | |
| 194 | 00C2 | AI3 | |
| 195 | 00C3 | AI4 | |
| 196 | 00C4 | AI5 | |
| 197 | 00C5 | AI6 | |
| 198 | 00C6 | AI7 | |
| 199 | 00C7 | AI8 | |
| 200 | 00C8 | AI9 | |
| 201 | 00C9 | AI10 | |
| 202 | 00CA | AI11 | |
| 203 | 00CB | AI12 | |
| 204 | 00CC | AI13 | |
| 205 | 00CD | AI14 | |
| 206 | 00CE | AI15 | |
| 207 | 00CF | AI16 | |

| *Modbus* address | | Sensor | Network |
|---|---|---|---|
| [DEC] | [HEX] | | |
| 208 | 00D0 | AI1 | XTEH1 XTE1 |
| 209 | 00D1 | AI2 | |
| 210 | 00D2 | AI3 | |
| 211 | 00D3 | AI4 | |
| 212 | 00D4 | AI1 | XTEH2 XTE2 |
| 213 | 00D5 | AI2 | |
| 214 | 00D6 | AI3 | |
| 215 | 00D7 | AI4 | |
| 216 | 00D8 | AI1 | XTEH3 XTE3 |
| 217 | 00D9 | AI2 | |
| 218 | 00DA | AI3 | |
| 219 | 00DB | AI4 | |
| 220 | 00DC | AI1 | XTEH4 XTE4 |
| 221 | 00DD | AI2 | |
| 222 | 00DE | AI3 | |
| 223 | 00DF | AI4 | |

Note that if you want to read probes associated to cards not configured as present in the XTM base, *Modbus* will respond with an exception command.

### 7.1.2 Digital input addresses with Modbus command 3 or 16

Instructions on how to monitor digital input states in a network that is the maximum network obtainable for a current XT system are provided below. The binary representation of the 16-bit registers read makes identifying the various digital inputs easy. Each bit contains the 1=excited or 0=not excited state for the relative digital input.

**Network 1**

XTM
XTEH1
XTEH2
XTEH3
XTEH4

| | | Bit15 | Bit14 | Bit13 | Bit12 | Bit11 | Bit10 | Bit9 | Bit8 | Bit7 | Bit6 | Bit5 | Bit4 | Bit3 | Bit2 | Bit1 | Bit0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Modbus* address | | Digital inputs | | | | | | | | | | | | | | | |
| [DEC] | [HEX] | | | | | | | | | | | | | | | | |
| 256 | 0100 | IDL16 | IDL15 | IDL14 | IDL13 | IDL12 | IDL11 | IDL10 | IDL9 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 | IDL2 | IDL1 |
| 257 | 0101 | IDL2 | IDL1 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 | IDL2 | IDL1 | IDL22 | IDL21 | IDL20 | IDL19 | IDL18 | IDL17 |
| 258 | 0102 | IDL2 | IDL1 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 | IDL2 | IDL1 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 |
| 259 | 0103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 |

Network2 is a lesser network than Network1 but helps you to understand how to identify inputs in the event of a "mixed" network".

**Network2**

XTM
XTE1
XTE2
XTE3
XTE4

| *Modbus* address | | Digital inputs | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [DEC] | [HEX] | | | | | | | | | | | | | | | | |
| 256 | 0100 | IDL16 | IDL15 | IDL14 | IDL13 | IDL12 | IDL11 | IDL10 | IDL9 | IDL8 | IDL7 | IDL6 | IDL5 | IDL4 | IDL3 | IDL2 | IDL1 |
| 257 | 0101 | IDL2 | IDL1 | IDL4 | IDL3 | IDL2 | IDL1 | IDL4 | IDL3 | IDL2 | IDL1 | IDL22 | IDL21 | IDL20 | IDL19 | IDL18 | IDL17 |
| 258 | 0102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | IDL4 | IDL3 | IDL2 | IDL1 | IDL4 | IDL3 |

Note that if you want to read digital inputs associated to cards not configured as present in the XTM base, *Modbus* will respond with an exception command if the digital inputs concerned are the only ones in the register read. If there are digital inputs in the register associated to cards configured as present, the state of the "non-configured" inputs will be 0.

### 7.1.3 Analogue output addresses with Modbus command 3 or 16

Instructions on how to monitor analogue output values in a network that is the maximum network obtainable for a current XT system are provided below. The representation with the most significant (Bit15...Bit8) and least significant (Bit7...Bit0) byte of the 16-bit registers read makes identifying the various analogue outputs easy. Each byte contains the percentage value of the analogue output indicated. Therefore the value of the two bytes forming each register can go from 0 (corresponding to 0% of the analogue output) to 100 (corresponding to 100% of the analogue output).

**Network 1**

| |
|---|
| XTM |
| XTEH1 |
| XTEH2 |
| XTEH3 |
| XTEH4 |

| | | Bit15...Bit8 | Bit7... Bit0 |
|---|---|---|---|
| ***Modbus*** **address** | | **Analogue outputs** | |
| **[DEC]** | **[HEX]** | | |
| 576 | 0240 | AO2 | AO1 |
| 577 | 0241 | AO4 | AO3 |
| 578 | 0242 | AO2 | AO1 |
| 579 | 0243 | AO2 | AO1 |
| 580 | 0244 | AO2 | AO1 |
| 581 | 0245 | AO2 | AO1 |

Network2 is a lesser network than Network1 but helps you to understand how to identify inputs in the event of a "mixed" network".

**Network2**

| |
|---|
| XTM |
| XTE1 |
| XTE2 |
| XTE3 |
| XTE4 |

| *Modbus* address | | Analogue outputs | |
|---|---|---|---|
| [DEC] | [HEX] | | |
| 576 | 0240 | AO2 | AO1 |
| 577 | 0241 | AO4 | AO3 |

Note that if you want to read analogue outputs associated to cards not configured as present in the XTM base, *Modbus* will respond with an exception command.

### 7.1.4 Digital output addresses with Modbus command 3 or 16

Instructions on how to monitor digital output states in a network that is the maximum network obtainable for a current XT system are provided below. The binary representation of the 16-bit registers read makes identifying the various relays easy. Each bit contains the ON=1 or OFF=0 state of the respective digital output.

**Max network**

XTM
XTEH1
XTEH2
XTEH3
XTEH4

| | | Bit15 | Bit14 | Bit13 | Bit12 | Bit11 | Bit10 | Bit9 | Bit8 | Bit7 | Bit6 | Bit5 | Bit4 | Bit3 | Bit2 | Bit1 | Bit0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Modbus*** **address** | | **Digital outputs** | | | | | | | | | | | | | | | |
| **[DEC]** | **[HEX]** | | | | | | | | | | | | | | | | |
| 512 | 0200 | NO16 | NO15 | NO14 | NO13 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 |
| 513 | 0201 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO20 | NO19 | NO18 | NO17 |
| 514 | 0202 | NO13 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO15 | NO14 | NO13 |
| 515 | 0203 | NO14 | NO13 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO15 | NO14 |
| 516 | 0204 | NO15 | NO14 | NO13 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO15 |

The Mixed Network is obtained through a combination of XT and expansions with less inputs and outputs than the MaxNetwork, but which helps you to understand how to identify digital outputs in the event of a "mixed" network".

**Mixed Network**

XTM
XTE1
XTE2
XTE3
XTE4

| ***Modbus*** **address** | | **Digital outputs** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **[DEC]** | **[HEX]** | | | | | | | | | | | | | | | | |
| 512 | 0200 | NO16 | NO15 | NO14 | NO13 | NO12 | NO11 | NO10 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 |
| 513 | 0201 | NO3 | NO2 | NO1 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO20 | NO19 | NO18 | NO17 |
| 514 | 0202 | NO1 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 | NO1 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 |
| 515 | 0203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | NO9 | NO8 | NO7 | NO6 | NO5 | NO4 | NO3 | NO2 |

Note that if you want to read digital outputs associated to cards not configured as present in the XTM base, *Modbus* will respond with an exception command if the digital outputs concerned are the only ones in the register read. If there are digital outputs in the register associated with cards configured as present, the state of the "non-configured" outputs will be 0.

# 8 APPENDICE

## 8.1 Troubleshooting

### 8.1.1 No Modbus communication

If *Modbus* communication has failed with Energy XT, check the settings required to restore communication.
A list of instructions is provided below outlining how best to check for potential errors in instrument settings.
Setting *COM1 configuration parameters*
RS-485 *COM1* serial port operation depends on the status of the 3 dedicated *parameters* **Cm24**, **Cm25** and **Cm26:**

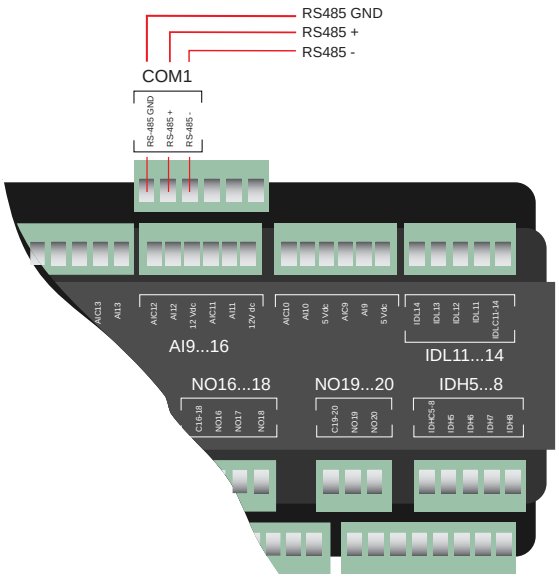
| Label | ***Modbus*** **address [DEC]** | ***PARAMETERS COM1* AND *COM3*** | **Description** |
|---|---|---|---|
| Cm24 | 39191 | *COM1* type protocol | *COM1* serial protocol selection:<br>2=*Micronet* 3=*Modbus*/RTU |
| Cm25 | 39192 | BAUD *COM1* | *COM1* serial baud selection:<br>0 = 9600 b/s 1 = 19200 b/s 2 = 38400 b/s |
| Cm26 | 39193 | *COM1* parity | *COM1* parity selection<br>0 = none 1 = odd 2 = even |

Make sure that the first 2 *parameters* are set as indicated below:
**Cm24 = 3 (*Modbus*/RTU)**
**Cm25 = 0 (9600 b/s)**

**IMPORTANT!** The *COM1* parity parameter **Cm26** must be consistent with the parity set in the software to be adopted: **if Cm26=0 then 2 parity bits must be set on the master communicating with XT.**
Hardware address
The software and hardware addresses must be the same. To ensure this, make sure DIP SWITCHES are set as follows:

**IMPORTANT:** To set the hardware address to "1", only the second dip switch from the left needs to be at the bottom.

Polarity and Position of port *COM1*
Check the correct position of serial port *COM1*



Passwords
The password must be communicated to Energy XT from a PC to enable the user for communication.
An error entering the password may block communication.
There are three different types of password in Energy XT:

READ PASSWORD enabling read commands only (when “blank” read is always enabled)
USER PASSWORD enabling read and write commands.
ADMINISTRATOR PASSWORD enabling read and write commands (not modifiable by USER).

**All passwords have 10 characters. The default password set by Eliwell has 10 “empty spaces”, meaning that** Energy XT serial communication can be enabled by entering a *modbus* write command (command 16) comprising a string of 10 “empty spaces”.

**IMPORTANT!** Sending the password enables the communication at first entering; the password must be re-entered to disable the communication.

As described above, serial communication is enabled by entering a string parameter, i.e. the password, but this **enabling of communication is saved in RAM and not EEPROM.** This means that, for example, if power is cut off to Energy XT after the password has been entered and serial communication enabled, when power is returned serial communication will once again be disabled. Hence the password will have to be re-entered to restore serial communication.
Area 5 communication test
If you are unable to establish if your PC is actually communicating with Energy XT, we advise you test a particular address area (area 5, STATE area) which, being unprotected by a password, can be read via *modbus* command.
So enter a read command (*modbus* command 3) for the STATE area (area 5).

The structure of the STATE area (area 5) and relevant *modbus* addresses that you'll need to run a read command used for a “communication test" are described below.

| NP | *Modbus* Add [hex] | Description of element | VAL | | Always readable | Writable only after password recognition |
|---|---|---|---|---|---|---|
| 1 | **142** | Info if *parameters* have been modified | 0: not modified (READ)<br>0: reset flag (WRITE)<br>1: modified (READ) | | X | X |
| 2 | **143** | Info presence of active alarms | 0: not present 1: present | | X | X |
| 3 | **144** | Info if Historic is full | 0: not full 1: full | | X | X |
| 4 | **145** | Info if the Black Box is full | 0: not full 1: full | | X | X |
| 5 | **146** | Machine switch On/Off | 0: off (READ/WRITE)<br>1: on (READ/WRITE)<br>2: switch Off (READ)<br>NOTE: If Off is requested, switching off cannot be interrupted | | X | X |
| 6 | **147** | Update of output state blocked by regulators and input states by drivers. | 0: Unlock outputs, always carried out + reset Lock Timeout<br>1: Lock outputs, carried out only if Lock Timeout is different from 0 | | X | X |
| 7 | **148** | Lock Timeout | Time in seconds (max. 600 sec)<br>NOTE: when equal to 0, any Lock is not reset | | X | X |
| 8 | **149** | Compressor selection/deselection | Bit3 | SELECT/DESELECT COMPRESSOR No. 1 | X | X |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 2 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 3 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 4 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 5 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 6 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 7 | | |
| | | | Bit3 | SELECT/DESELECT COMPRESSOR No. 8 | | |
| 9 | **14A** | *Enabling configuration from serial* port. Used for writing COLD-type *parameters* | 0:_NON_PUOI_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (ENTRY TO *CONFIGURATION* NOT PERMITTED (READ)<br>1:_AVVIA_SEQUENZA_PER_POTER_RICHIEDERE_CONFIGURAZIONE_ (WRITE) (START SEQUENCE TO OPEN *CONFIGURATION*)<br>2:_ATTENDI_PER_POTER_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (WAIT TO OPEN *CONFIGURATION*)<br>3:_PUOI_RICHIEDERE_INGRESSO_IN_CONFIGURAZIONE_ (READ) (YOU CAN OPEN *CONFIGURATION* NOW) | | X | X |

| NP | *Modbus* Add [hex] | Description of element | VAL | Always readable | Writable only after password recognition |
|---|---|---|---|---|---|
| | | | 4:_RICHIEDO_CONFIGURAZIONE_ (WRITE) (OPEN *CONFIGURATION*)<br>5:_SEI_IN_CONFIGURAZIONE_ (READ) (*CONFIGURATION* OPEN)<br>6:_ESCI_DALLA_CONFIGURAZIONE_ (WRITE) (EXIT *CONFIGURATION*) | | |
| 10 | **14B** | Operating mode | 1 = CHILLER<br>2= CHILLER+RECOVERY (enabled but not necessarily activated)<br>3 = HEAT PUMP<br>8 = CHILLER+FREE COOLING (enabled but not necessarily activated)<br><br>NOTE: The operating mode in write (change) works with the same priorities as the manual mode change. In read, the code of the current machine modus operandi at that moment (which must be different from the one requested, for reasons of time band and mode change digital input priority) is supplied. | X | X |

# 9 RESPONSABILITÀ E RISCHI RESIDUI

Eliwell Controls s.r.l. shall not be liable for any damages deriving from:

- installation/*use* other than that prescribed which does not comply with the safety standards specified in the regulations and/or herein;
- *use* on equipment that does not guarantee adequate protection against electric shock, water or dust when assembled.
- *use* on equipment that allows dangerous parts to be accessed without the *use* of tools;
- Installation/*use* on equipment that is not compliant with the standards and regulations in force.

# 10 DECLINAZIONE DI RESPONSABILITÀ

This document is exclusive property of **Eliwell Controls srl.** and cannot be reproduced and circulated unless expressly authorized by **Eliwell Controls srl**
Although all possible measures have been taken by **Eliwell Controls srl l.** to guarantee the accuracy of this document, it does not accept any responsibility arising out of its *use*.

## 11 ANALYTIC INDEX


**A**

*Address configuration* ... 10
*Alarm History* ... 13
*Analogue output addresses with Modbus command 3 or 16* ... ***76***
*APPENDICE* ... 79

**C**

***Call-outs*** ... ***2***
***COM1*** ... ***3***
*COM1 and COM3:* ... ***3***
*COM1 PARAMETERISATION (parameters in EEPROM highlighted)* ... ***4***
***COM3*** ... ***3***; 5
*COM3 PARAMETERISATION (parameters in EEPROM highlighted)* ... ***5***
*COMANDI MODBUS PER LETTURA O SCRITTURA I/O* ... 74
*Commands 3 and 16* ... 74
***Configuration*** ... ***16***
***Cross references*** ... ***2***

**D**

*Data format (RTU)* ... 9
*DECLINAZIONE DI RESPONSABILITÀ* ... 83
*Digital input addresses with Modbus command 3 or 16* ... ***74***
*Digital output addresses with Modbus command 3 or 16* ... ***76***

**E**

***ELIWELL protocol*** ... ***4***; ***5***
*Enabling configuration from serial* ... 10
*ENERGY XT SERIALS UART* ... 3

**F**

*FUNCTIONS* ... 12

**H**

*Highlighted icons* ... ***2***
*HOW TO USE THIS MANUAL* ... 2

**L**

*Local RS232 topology* ... ***6***
*Local RS485 topology* ... ***4***
*Local TTL topology* ... ***8***

**M**

*Micronet* ... ***4***
***MODBUS*** ... ***4***; ***5***
*MODBUS FUNCTIONS AND RESOURCES* ... 9
*Modbus functions available and data areas* ... 9
*MODEM management* ... ***6***
*MODEM/FAX used* ... ***6***

**N**

*No Modbus communication* ... ***79***

**P**

***Parameters*** ... ***16***
*Product identification* ... ***9***
Protocols Usable on ... ***5***
Protocols Usable on ... ***4***

**R**

Read ... ***12***
*Read Alarm History* ... ***13***
*Remote RS232 topology* ... ***7***
*RESPONSABILITÀ E RISCHI RESIDUI* ... 82

**S**

*Sensor addresses with Modbus command 3 or 16* ... ***74***
Serial ... 3
*SUB-D 9 poles MALE of Energy XT* ... ***8***

**T**

***TABELLA CLIENT*** ... 40
*TABLE OF PARAMETERS* ... 15
*Troubleshooting* ... 79

**U**

*UART serials* ... ***3***
*Use* ... ***3***; ***5***



ELIWELL CONTROLS s.r.l.
Via dell'Industria, 15 Zona Industriale Paludi
32010 Pieve d'Alpago (BL) ITALY
Telephone +39 0437 986111
Facsimile +39 0437 989066
Internet http://www.eliwell.it

**Technical Customer Support:**
Telephone +39 0437 986300
Email: techsuppeliwell@invensyscontrols.com

**Invensys Controls Europe**
**An Invensys Company**