# ERT 400
# Modbus Serial Communication Protocol

# 1 CONTENTS

## 2 MODBUS FUNCTIONS AND RESOURCES

Modbus is a master-slave / client-server communication protocol for communication between *network* connected devices. Modbus devices communicate using a master-slave / client-server technique in which only one device (the master) can send queries. The other *network* devices (slaves) respond by supplying the data requested by the master or by taking the action requested in the query. A slave is any device connected to the *network* which processes information and sends its output to the master using the Modbus protocol.

Masters can *address* individual slaves or send broadcast messages to the entire *network* whereas slaves only return a response to queries from masters addressed to them individually.

The Modbus standard used by Eliwell uses the RTU protocol for data transmission.

### 2.1 Data format (RTU)

The code model used defines the structure of the messages transmitted on the *network* and the way this information is decoded. The type of code is usually selected according to specific parameters (baud rate, parity, etc...), Some devices only support certain code models but the same one must be used for all the devices connected to a Modbus *network*.

The protocol uses the RTU binary method with the bytes containing:
8 data bits, even parity bits (non configurable), 1 stop bit.

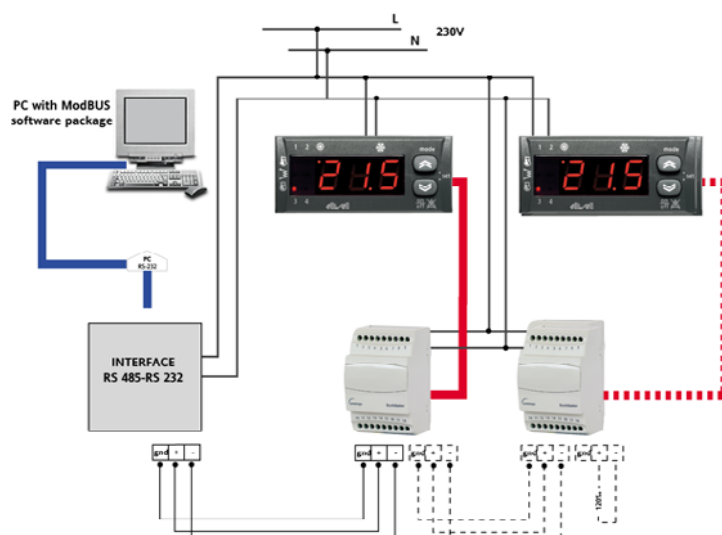**NOTE: the baud rate must be set to 9600 bauds.**
Parameters can be set so that the *device* is fully configurable
Parameters can be changed using:
- device keyboard
- Copy Card
- by sending the data via the ModBus protocol straight to a single device or by sending a broadcast message using *address* 0 (broadcast *address*)

**Diagram of Modbus connection to multi-unit**



### 2.2 Network

| PC/Interface connection | RS232 cable |
|---|---|
| Device/Bus Adapter connection | 5-path connector TTL cable (30cm) (other sizes/lengths available) |
| Bus Adapter | BA150 |
| Bus Adapter/Interface connection | RS485 cable shielded and twisted (e.g.: Belden cable model 8762) |

### 2.3 Modbus functions available and data areas

| Function Code | Description of command |
|---|---|
| 3 | Read 12 consecutive registers for Client side Read 1 single register for parameters. |
| 16 | Write 11 consecutive registers for Client side Write 1 register for parameters |

| Product codes | A specific product can be univocally recognized by the Family/Version hexadecimal values and PCH. With regard to the ERT400: |
|---|---|

Fam/Ver: "0091000F" composed of Family Code 0091 = 145 and version 000F = 15
PCH:     "20"= 32

**CAUTION** A request must be sent to read 2 registers (WORD) to have 1 read. If a request to read only one register is made, the highest byte is read.

**CAUTION** To write values in WORDs a write request for 2 registers must be sent in order to obtain 2 responses.

## 2.4    Address configuration

The device *address* in a ModBus message contains one byte and consists of the family code and the device code made up of parameters H67 and H68 respectively.
The Device *Address* therefore consists of two nibbles:
- **H68:** low nibble
- **H67:** high nibble

To calculate the *address* using parameters H67 and H68:
    *address* = **H67** x 16 + **H68**

For example: *address* (HEX) 16 (H44=01; H45=00)

*Address* 0 is used for broadcast queries that are recognized by all the slaves. Slaves do not respond to broadcast queries.

| DEVICE CONFIGURATION PARAMETERS | | | |
|---|---|---|---|
| **Par.** | Description | *Range* | Value |
| **H67** | Family serial *address* | 0...14 | 0 |
| **H68** | Device serial *address* | 0...14 | 0 |

## 2.5    Address tables

### 2.5.1    Description of parameters

The *address tables* contain the necessary read, write and decode information for each single resource accessible in the device.
There are two tables:
- the *parameter table* contains all the device configuration parameters stored in the non-volatile memory of the device.
- the *client table* includes all the I/O and alarm status resources available in the volatile memory of the device.

**Description of columns:**

| INDEX | For the *parameter table* this value represents the order in which the parameter is displayed in the device menu. For the *client table* this value is not significant. |
|---|---|
| FOLDER | This indicates the *folder label* containing the relevant parameter |
| LABEL | Indicates the *label* used to display the **parameters** in the device menu. |
| ADDRESS | The whole part represents the MODBUS register *address* containing the value of the resource to read or write in the device. The value after the comma indicates the position of the most significant bit of the data in the register; if it is not stated, it equals zero. This information is always provided when the register contains more than one data element and it is important to understand which bits actually represent the data element (the size of the data indicated in the *DATA SIZE* column is also considered). Since Modbus registers are the size of one WORD (16 bits), the *index* after the comma can vary from 0 (least significant bit –LSb–) to 15 (most significant bit –MSb–). Examples (in binary representation the least significant bit is the rightmost bit) |

| *ADDRESS* | Register | | *DATA SIZE* | Value |
|---|---|---|---|---|
| 8806 | 1350 | (0000010101000110) | WORD | 1350 |
| 8806 | 1350 | (00000101**01000110**) | Byte | 70 |
| 8806,8 | 1350 | (**00000101**01000110) | Byte | 5 |
| 8806,14 | 1350 | (0**0**000101010000110) | 1 bit | 0 |
| 8806,7 | 1350 | (000001**0101**000110) | 4 bits | 10 |

Please note: when the register contains more than one data element, proceed as follows for the write operation:
- read the current value of the register
- modify the bits that represent the relevant resource
- write the register

| | |
|---|---|
| **R/W** | Indicates the possibility of reading or writing the resource: |

| | |
|---|---|
| | R     the resource is read only |
| | W    the resource is write only |
| | RW   the resource is read/write |

**DATA SIZE** — Indicates size of the data in bits.

WORD   =       16 bits
Byte      =       8 bits
"n" bit   =       0...15 bits depending on "n"

**CPL** — When "Y" is indicated, the value read by the register requires conversion because the value represents a number with a sign. In other instances, the value is always positive or null.
For the conversion, see below:
if the value of the register is between 0 and 32767, the result is the value itself (zero and positive values)
if the value of the register is between 32768 and 65535, the result is the value of the register - 65536 (negative values)

**RANGE** — This describes the *range* of values permitted for the parameter. It can be correlated with other device parameters (indicated with parameter *label*).

**DEFAULT** — Indicates the factory set value for the standard model of the device.

**EXP** — This is the multiplier *index* that must be applied to convert the value read by the register to the values indicated in the *RANGE* and *DEFAULT* column in order to convert them into the final values based on the unit of measurement indicated in the **M.U** column.
The multiplier is calculated using the exponential function with base 10 and the exponent indicated in the ***EXP*** column.
When not indicated, its value is 0. Valid values are as below:

| Value | | Corresponding multiplier | |
|---|---|---|---|
| -2 | = | $10^{-2}$ | ( 0,01 ) |
| -1 | = | $10^{-1}$ | ( 0,1 ) |
| 0 | = | $10^{0}$ | ( 1 ) |
| 1 | = | $10^{1}$ | ( 10 ) |
| 2 | = | $10^{2}$ | ( 100 ) |

**M.U.** — Unit of measurement of values converted according to the rules indicated in columns *CPL* and *EXP*.

### 2.5.2 Parameter Table

| | | | | | Read: 1 WORD<br>Write: 1 WORD | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | DESCRIPTION | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 1 | SEt | G01 | 2049 | RW | Set point Cooling | WORD | Y | H04 … H03 | 250 | -1 | °C |
| 2 | SEt | G02 | 2050 | RW | Set point Heating | WORD | Y | H02 … H01 | 210 | -1 | °C |
| 3 | CnF | H01 | 2051 | RW | Max set point Heating | WORD | Y | G02 … G01 | 300 | -1 | °C |
| 4 | CnF | H02 | 2052 | RW | Min set point Heating | WORD | Y | -400 … G02 | 150 | -1 | °C |
| 5 | CnF | H03 | 2053 | RW | Max set point Cooling | WORD | Y | G01 … 900 | 280 | -1 | °C |
| 6 | CnF | H04 | 2054 | RW | Min set point Cooling | WORD | Y | G02 … G01 | 100 | -1 | °C |
| 7 | CnF | H05 | 2055 | RW | Number of circuits | WORD | | 0 … 2 | 2 | | Num |
| 8 | CnF | H06 | 2056 | RW | Number of compressors per circuit | WORD | | 0 … 4 | 2 | | Num |
| 9 | CnF | H07 | 2057 | RW | Number of stages per compressor | WORD | | 0 … 3 | 0 | | Num |
| 10 | CnF | H08 | 2058 | RW | Compressor selection rule | WORD | | 0 … 1 | 0 | | Flag |
| 11 | CnF | H09 | 2059 | RW | Circuit selection rule | WORD | | 0 … 1 | 1 | | Flag |
| 12 | CnF | H10 | 2060 | RW | Heat pump presence | WORD | | 0 … 1 | 1 | | Flag |
| 13 | CnF | H11 | 2061 | RW | AI1 configuration | WORD | | 0 … 2 | 1 | | Num |
| 14 | CnF | H12 | 2062 | RW | AI2 configuration | WORD | | 0 … 2 | 1 | | Num |
| 15 | CnF | H13 | 2063 | RW | AI3 configuration | WORD | | 0 … 3 | 1 | | Num |
| 16 | CnF | H14 | 2064 | RW | AI4 configuration | WORD | | 0 … 2 | 1 | | Num |
| 17 | CnF | H15 | 2065 | RW | AI5 configuration | WORD | | 0 … 3 | 0 | | Num |
| 18 | CnF | H16 | 2066 | RW | AI6 configuration | WORD | | 0 … 3 | 1 | | Num |
| 19 | CnF | H17 | 2067 | RW | Pressure end of scale value | WORD | | 0 … 350 | 300 | 1 | Kpa |
| 20 | CnF | H18 | 2068 | RW | ID1 ID2 ID3 ID4 polarity | WORD | | 0 … 15 | 15 | | Num |
| 21 | CnF | H19 | 2069 | RW | ID5 ID6 ID7 ID8 polarity | WORD | | 0 … 15 | 15 | | Num |
| 22 | CnF | H20 | 2070 | RW | ID9 ID10 ID11 AI4 polarity | WORD | | 0 … 15 | 15 | | Num |
| 23 | CnF | H21 | 2071 | RW | Init scale AI3 (H13=1) | WORD | | 0 … 100 | 0 | | % |
| 24 | CnF | H22 | 2072 | RW | End scale AI3 (H13=1) | WORD | | 0 … 100 | 100 | | % |
| 25 | CnF | H23 | 2073 | RW | ID1 configuration | WORD | | 0 … 25 | 4 | | Num |
| 26 | CnF | H24 | 2074 | RW | ID2 configuration | WORD | | 0 … 25 | 5 | | Num |
| 27 | CnF | H25 | 2075 | RW | ID3 configuration | WORD | | 0 … 25 | 6 | | Num |
| 28 | CnF | H26 | 2076 | RW | ID4 configuration | WORD | | 0 … 25 | 7 | | Num |
| 29 | CnF | H27 | 2077 | RW | ID5 configuration | WORD | | 0 … 25 | 8 | | Num |
| 30 | CnF | H28 | 2078 | RW | ID6 configuration | WORD | | 0 … 25 | 9 | | Num |
| 31 | CnF | H29 | 2079 | RW | ID7 configuration | WORD | | 0 … 25 | 10 | | Num |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Read: 1 WORD** <br> **Write: 1 WORD** | | | | | | | | | | |
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | *DESCRIPTION* | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 32 | CnF | H30 | 2080 | RW | ID8 configuration | WORD | | 0 ... 25 | 11 | | Num |
| 33 | CnF | H31 | 2081 | RW | ID9 configuration | WORD | | 0 ... 25 | 12 | | Num |
| 34 | CnF | H32 | 2082 | RW | ID10 configuration | WORD | | 0 ... 25 | 13 | | Num |
| 35 | CnF | H33 | 2083 | RW | ID11 configuration | WORD | | 0 ... 25 | 25 | | Num |
| 36 | CnF | H34 | 2084 | RW | Pressure end of scale value | WORD | | 0 ... 255 | 100 | | Num |
| 37 | CnF | H35 | 2085 | RW | RL2 output relay configuration | WORD | | 0 ... 16 | 7 | | Num |
| 38 | CnF | H36 | 2086 | RW | RL3 output relay configuration | WORD | | 0 ... 16 | 1 | | Num |
| 39 | CnF | H37 | 2087 | RW | RL4 output relay configuration | WORD | | 0 ... 16 | 8 | | Num |
| 40 | CnF | H38 | 2088 | RW | RL5 output relay configuration | WORD | | 0 ... 16 | 9 | | Num |
| 41 | CnF | H39 | 2089 | RW | RL6 output relay configuration | WORD | | 0 ... 16 | 2 | | Num |
| 42 | CnF | H40 | 2090 | RW | RL7 output relay configuration | WORD | | 0 ... 16 | 6 | | Num |
| 43 | CnF | H41 | 2091 | RW | RL1 polarity | WORD | | 0 ... 1 | 0 | | Flag |
| 44 | CnF | H42 | 2092 | RW | RL2 polarity | WORD | | 0 ... 1 | 0 | | Flag |
| 45 | CnF | H43 | 2093 | RW | RL3 polarity | WORD | | 0 ... 1 | 0 | | Flag |
| 46 | CnF | H44 | 2094 | RW | RL4 polarity | WORD | | 0 ... 1 | 0 | | Flag |
| 47 | CnF | H45 | 2095 | RW | Alarm relay polarity | WORD | | 0 ... 1 | 0 | | Flag |
| 48 | CnF | H46 | 2096 | RW | Fan output configuration | WORD | | 0 ... 1 | 0 | | Flag |
| 49 | CnF | H47 | 2097 | RW | Fan output configuration | WORD | | 0 ... 2 | 0 | | Flag |
| 50 | CnF | H48 | 2098 | RW | Enabled Heating mode | WORD | | 0 ... 1 | 1 | | Flag |
| 51 | CnF | H49 | 2099 | RW | Configuration mode selection | WORD | | 0 ... 2 | 0 | | Num |
| 52 | CnF | H50 | 2100 | RW | Enabled "dynamic set point" | WORD | | 0 ... 1 | 0 | | Flag |
| 53 | CnF | H51 | 2101 | RW | Offset "dynamic set point" Cooling | WORD | Y | -500 ... 800 | 50 | -1 | °C |
| 54 | CnF | H52 | 2102 | RW | Offset "dynamic set point" Heating | WORD | Y | -500 ... 800 | 10 | -1 | °C |
| 55 | CnF | H53 | 2103 | RW | Set point "dynamic set point" Heating | WORD | Y | -127 ... 127 | 35 | | °C |
| 56 | CnF | H54 | 2104 | RW | Set point "dynamic Set point" Cooling | WORD | Y | -127 ... 127 | 5 | | °C |
| 57 | CnF | H55 | 2105 | RW | Proportional Band "dynamic set point" Cooling | WORD | Y | -500 ... 800 | 60 | -1 | °C |
| 58 | CnF | H56 | 2106 | RW | Proportional Band "dynamic set point" Heating | WORD | Y | -500 ... 800 | 100 | -1 | °C |
| 59 | CnF | H57 | 2107 | RW | AI1 offset | WORD | Y | -127 ... 127 | 0 | -1 | °C |
| 60 | CnF | H58 | 2108 | RW | AI2 offset | WORD | Y | -127 ... 127 | 0 | -1 | °C |
| 61 | CnF | H59 | 2109 | RW | AI3 offset | WORD | Y | -127 ... 127 | 0 | -1 | °C - Kpa*100 |

| Read: 1 WORD Write: 1 WORD | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 62 | CnF | H60 | 2110 | RW | AI4 offset | WORD | Y | -127 … 127 | 0 | -1 | °C |
| 63 | CnF | H61 | 2111 | RW | AI5 offset | WORD | Y | -127 … 127 | 0 | -1 | °C |
| 64 | CnF | H62 | 2112 | RW | AI6 offset | WORD | Y | -127 … 127 | 0 | -1 | °C - Kpa*100 |
| 65 | CnF | H63 | 2113 | RW | AI7 offset | WORD | Y | -127 … 127 | 0 | -1 | °C |
| 66 | CnF | H64 | 2114 | RW | AI8 offset | WORD | Y | -127 … 127 | 0 | -1 | °C |
| 67 | CnF | H65 | 2115 | RW | Power supply frequency | WORD | | 0 … 1 | 0 | | Flag |
| 68 | CnF | H66 | 2116 | RW | Temperature unit (C/F) | WORD | | 0 … 1 | 0 | | Flag |
| 69 | CnF | H67 | 2117 | RW | Family serial address | WORD | | 0 … 14 | 0 | | Num |
| 70 | CnF | H68 | 2118 | RW | Device serial address | WORD | | 0 … 14 | 0 | | Num |
| 71 | CnF | H69 | 2119 | RW | User password | WORD | | 0 … 255 | 0 | | Num |
| 72 | CnF | H70 | 2120 | RW | Copy card password | WORD | | 0 … 255 | 1 | | Num |
| 73 | CnF | H71 | 2121 | RW | Keyboard presence | WORD | | 0 … 1 | 0 | | Flag |
| 74 | CnF | H72 | 2122 | RW | Min time Heating or Cooling | WORD | | 0 … 255 | 10 | | Min |
| 75 | CnF | H73 | 2123 | RW | AI1 AI2 AI4 AI5 polarity | WORD | | 0 … 15 | 0 | | Num |
| 76 | CnF | H74 | 2124 | RW | AI1 configuration as digital input | WORD | | 0 … 25 | 0 | | Num |
| 77 | CnF | H75 | 2125 | RW | AI2 configuration as digital input | WORD | | 0 … 25 | 0 | | Num |
| 78 | CnF | H76 | 2126 | RW | AI4 configuration as digital input | WORD | | 0 … 25 | 0 | | Num |
| 79 | CnF | H77 | 2127 | RW | AI5 configuration as digital input | WORD | | 0 … 25 | 0 | | Num |
| 80 | CnF | H78 | 2128 | RW | Enabled digital control | WORD | | 0 … 1 | 0 | | Num |
| 81 | CnF | H79 | 2129 | RW | Enabled unbalanced circuits | WORD | | 0 … 1 | 0 | | Num |
| 82 | CnF | H80 | 2130 | RW | Enabled control using EKW probe | WORD | | 0 … 1 | 0 | | Num |
| 83 | ALL | A01 | 2131 | RW | Low pressure bypass time | WORD | | 0 … 255 | 120 | | s |
| 84 | ALL | A02 | 2132 | RW | Low pressure alarm events per hour | WORD | | 0 … 255 | 3 | | Num |
| 85 | ALL | A03 | 2133 | RW | Bypass time for flow switch alarm | WORD | | 0 … 255 | 120 | | s |
| 86 | ALL | A04 | 2134 | RW | Active flow switch input duration | WORD | | 0 … 255 | 120 | | s |
| 87 | ALL | A05 | 2135 | RW | Inactive flow switch input duration | WORD | | 0 … 255 | 5 | | s |
| 88 | ALL | A06 | 2136 | RW | Flow switch events per hour | WORD | | 0 … 255 | 0 | | Num |
| 89 | ALL | A07 | 2137 | RW | Bypass thermal protection compressor alarm | WORD | | 0 … 255 | 0 | | s |
| 90 | ALL | A08 | 2138 | RW | Events per hour for thermal protection comp. alarm | WORD | | 0 … 255 | 0 | | Num |
| 91 | ALL | A09 | 2139 | RW | Events per hour for fan thermal alarm | WORD | | 0 … 255 | 0 | | Num |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Read: 1 WORD** <br> **Write: 1 WORD** | | | | | | | | | | | |
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | **DESCRIPTION** | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 92 | ALL | **A10** | **2140** | RW | Bypass anti-freeze alarm | WORD | | 0 ... 255 | 0 | | Min |
| 93 | ALL | **A11** | **2141** | RW | Set point anti-freeze alarm | WORD | Y | -127 ... 127 | 5 | | °C |
| 94 | ALL | **A12** | **2142** | RW | Isteresis anti-freeze alarm | WORD | | 0 ... 255 | 30 | -1 | °C |
| 95 | ALL | **A13** | **2143** | RW | Anti-freeze alarm events per hour | WORD | | 0 ... 255 | 3 | | Num |
| 96 | ALL | **A14** | **2144** | RW | Anti-freeze probe selection | WORD | | 0 ... 3 | 0 | | Num |
| 97 | ALL | **A15** | **2145** | RW | Configuration of fan with antifreeze alarm | WORD | | 0 ... 1 | 0 | | Flag |
| 98 | ALL | **A16** | **2146** | RW | Configuration of fan with fire alarm | WORD | | 0 ... 3 | 0 | | Num |
| 99 | ALL | **A17** | **2147** | RW | Set point inlet over temperature alarm | WORD | | 0 ... 255 | 40 | | °C |
| 100 | ALL | **A18** | **2148** | RW | Inlet Over temperature duration | WORD | | 0 ... 255 | 100 | 1 | s |
| 101 | ALL | **A19** | **2149** | RW | Compressor status if inlet over temperature alarm | WORD | | 0 ... 1 | 1 | | Flag |
| 102 | ALL | **A20** | **2150** | RW | Set point for dirty filter alarm hours | WORD | | 0 ... 999 | 0 | 2 | h |
| 103 | ALL | **A21** | **2151** | RW | Set point for obstructed filter alarm hours | WORD | | 0 ... 999 | 0 | 2 | h |
| 104 | ALL | **A22** | **2152** | RW | Enabled fan lock when filter alarm obstructed | WORD | | 0 ... 1 | 0 | | Flag |
| 105 | ALL | **A23** | **2153** | RW | Filter alarm bypass time | WORD | | 0 ... 255 | 15 | | s |
| 106 | ALL | **A24** | **2154** | RW | Set point for fan alarm lock DP | WORD | | 0 ... 255 | 5 | | Num |
| 107 | ALL | **A25** | **2155** | RW | Set point for dirty filter alarm DP | WORD | | 0 ... 255 | 50 | | Num |
| 108 | ALL | **A26** | **2156** | RW | Set poin for obstructed filter alarm DP | WORD | | 0 ... 255 | 80 | | Num |
| 109 | ALL | **A27** | **2157** | RW | Duration of DP dirty or obstructed filter alarm | WORD | | 0 ... 255 | 60 | | s |
| 110 | ALL | **A28** | **2158** | RW | Duration of DP fan lock alarm | WORD | | 0 ... 255 | 10 | | s |
| 111 | ALL | **A29** | **2159** | RW | Set point for maximum delivery air temperature | WORD | Y | -127 ... 127 | 50 | | °C |
| 112 | ALL | **A30** | **2160** | RW | Set point for minimum delivery air temperature | WORD | Y | -127 ... 127 | 15 | | °C |
| 113 | ALL | **A31** | **2161** | RW | Proportional band of delivery air temperature | WORD | | 0 ... 255 | 10 | -1 | °C |
| 114 | ALL | **A32** | **2162** | RW | Configuration of alarm relay in remote OFF | WORD | | 0 ... 1 | 0 | | Flag |
| 115 | CP | **C01** | **2163** | RW | ON-OFF compressor delay | WORD | | 0 ... 255 | 18 | 1 | s |
| 116 | CP | **C02** | **2164** | RW | ON-ON compressor delay | WORD | | 0 ... 255 | 36 | 1 | s |
| 117 | CP | **C03** | **2165** | RW | Delay ON/ON compressors | WORD | | 0 ... 255 | 10 | | s |
| 118 | CP | **C04** | **2166** | RW | Delay OFF/OFF compressors | WORD | | 0 ... 255 | 10 | | s |

| Read: 1 WORD<br>Write: 1 WORD | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | *DESCRIPTION* | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 119 | CP | **C05** | **2167** | RW | Delay ON first / ON second compressor | WORD | | 0 ... 255 | 10 | | s |
| 120 | rE | **b01** | **2168** | RW | Proportional band Cooling | WORD | | 0 ... 255 | 40 | -1 | °C |
| 121 | rE | **b02** | **2169** | RW | Proportional band Heating | WORD | | 0 ... 255 | 40 | -1 | °C |
| 122 | rE | **b03** | **2170** | RW | Proportional band of supplementary electrical heaters | WORD | | 0 ... 255 | 40 | -1 | °C |
| 123 | rE | **b04** | **2171** | RW | Differential for supplementary electric heaters with HP ON | WORD | | 0 ... 255 | 40 | -1 | °C |
| 124 | rE | **b05** | **2172** | RW | Differential for supplementary electric heaters with HP OFF | WORD | | 0 ... 255 | 20 | -1 | °C |
| 125 | rE | **b06** | **2173** | RW | Proportional Band supplementary hot water battery | WORD | | 0 ... 255 | 0 | -1 | °C |
| 126 | rE | **b07** | **2174** | RW | Differential for hot water battery HP ON | WORD | | 0 ... 255 | 50 | -1 | °C |
| 127 | rE | **b08** | **2175** | RW | Differential for hot water battery HP OFF | WORD | | 0 ... 255 | 50 | -1 | °C |
| 128 | FAn | **F01** | **2176** | RW | Fan output configuration | WORD | | 0 ... 2 | 0 | | Num. |
| 129 | FAn | **F02** | **2177** | RW | Fan pickup time | WORD | | 0 ... 255 | 30 | -1 | s |
| 130 | FAn | **F03** | **2178** | RW | Fan phase shift | WORD | | 0 ... 100 | 8 | | % |
| 131 | FAn | **F04** | **2179** | RW | Triac pulse lenght | WORD | | 0 ... 255 | 30 | -1 | ms |
| 132 | FAn | **F05** | **2180** | RW | Operation on compressor ON | WORD | | 0 ... 1 | 0 | | Flag |
| 133 | FAn | **F06** | **2181** | RW | Min fan speed Cooling | WORD | | 0 ... 100 | 30 | | % |
| 134 | FAn | **F07** | **2182** | RW | Silent fan speed Cooling | WORD | | 0 ... 100 | 100 | | % |
| 135 | FAn | **F08** | **2183** | RW | T/P set point for min fan speed Cooling | WORD | Y | -500 ... 800 | 160 | -1 | °C - Kpa*100 |
| 136 | FAn | **F09** | **2184** | RW | Proportional band Cooling | WORD | | 0 ... 255 | 30 | -1 | °C - Kpa*100 |
| 137 | FAn | **F10** | **2185** | RW | Cut-off differential | WORD | | 0 ... 255 | 10 | -1 | °C - Kpa*100 |
| 138 | FAn | **F11** | **2186** | RW | Cut-off hysteresis | WORD | | 0 ... 255 | 10 | -1 | °C - Kpa*100 |
| 139 | FAn | **F12** | **2187** | RW | Cut-off bypass time | WORD | | 0 ... 255 | 0 | | s |
| 140 | FAn | **F13** | **2188** | RW | Max fan speed Cooling | WORD | | 0 ... 100 | 100 | | % |
| 141 | FAn | **F14** | **2189** | RW | T/P set point for max fan speed Cooling | WORD | Y | -500 ... 800 | 200 | -1 | °C - Kpa*100 |
| 142 | FAn | **F15** | **2190** | RW | Min fan speed Heating | WORD | | 0 ... 100 | 10 | | % |
| 143 | FAn | **F16** | **2191** | RW | Silent fan speed Heating | WORD | | 0 ... 100 | 90 | | % |
| 144 | FAn | **F17** | **2192** | RW | T/P set point for max fan speed Heating | WORD | Y | -500 ... 800 | 50 | -1 | °C - Kpa*100 |
| 145 | FAn | **F18** | **2193** | RW | Proportional band Heating | WORD | | 0 ... 255 | 10 | -1 | °C - Kpa*100 |
| 146 | FAn | **F19** | **2194** | RW | Max fan speed in Heating | WORD | | 0 ... 100 | 100 | | % |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Read: 1 WORD** <br> **Write: 1 WORD** | | | | | | | | | | | |
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | DESCRIPTION | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 147 | FAn | **F20** | **2195** | RW | T/P set point for max fan speed Cooling | WORD | Y | -500 ... 800 | 35 | -1 | °C - Kpa*100 |
| 148 | FAn | **F21** | **2196** | RW | Preventilation in Cooling | WORD | | 0 ... 255 | 0 | | s |
| 149 | FAn | **F22** | **2197** | RW | Single or separate configuration | WORD | | 0 ... 1 | 0 | | Flag |
| 150 | FAn | **F23** | **2198** | RW | Set point T/P fan in defrost | WORD | Y | -500 ... 800 | 170 | -1 | °C - Kpa*100 |
| 151 | FAn | **F24** | **2199** | RW | Isteresis fan in defrost | WORD | | 0 ... 255 | 20 | -1 | °C - Kpa*100 |
| 152 | PUP | **P01** | **2200** | RW | Pump ON - compressor ON delay | WORD | | 0 ... 255 | 2 | 1 | s |
| 153 | PUP | **P02** | **2201** | RW | Fan ON - compressor ON delay | WORD | | 0 ... 255 | 0 | | s |
| 154 | PUP | **P03** | **2202** | RW | Compressor OFF - Fan OFF delay | WORD | | 0 ... 255 | 10 | | s |
| 155 | PUP | **P04** | **2203** | RW | Enabled defrosting ventilation on | WORD | | 0 ... 1 | 1 | | Flag |
| 156 | Fro | **r01** | **2204** | RW | Electric heater configuration in defrost | WORD | | 0 ... 1 | 0 | | Flag |
| 157 | Fro | **r02** | **2205** | RW | Enabled electric heater Heating mode | WORD | | 0 ... 1 | 0 | | Flag |
| 158 | Fro | **r03** | **2206** | RW | Enabled electric heater Cooling mode | WORD | | 0 ... 1 | 0 | | Flag |
| 159 | Fro | **r04** | **2207** | RW | Configuration of electric heaters control probe | WORD | | 0 ... 3 | 0 | | Num |
| 160 | Fro | **r05** | **2208** | RW | Number of steps of electric heaters | WORD | | 0 ... 4 | 0 | | Num |
| 161 | Fro | **r06** | **2209** | RW | Electric heater configuration in OFF or STANDBY | WORD | | 0 ... 1 | 0 | | Flag |
| 162 | Fro | **r07** | **2210** | RW | Set point electric heater Heating | WORD | Y | r10 ... r09 | 5 | | °C |
| 163 | Fro | **r08** | **2211** | RW | Set point electric heater Cooling | WORD | Y | r10 ... r09 | 5 | | °C |
| 164 | Fro | **r09** | **2212** | RW | Min set point electric heater | WORD | Y | r10 ... 127 | 50 | | °C |
| 165 | Fro | **r10** | **2213** | RW | Max set point electric heater | WORD | Y | -127 ... r09 | -10 | | °C |
| 166 | Fro | **r11** | **2214** | RW | Hysteresis electric heater | WORD | | 0 ... 255 | 20 | -1 | °C |
| 167 | Fro | **r12** | **2215** | RW | Enabled heat pump lock | WORD | | 0 ... 1 | 0 | | Flag |
| 168 | Fro | **r13** | **2216** | RW | Set point heat pump lock | WORD | Y | -127 ... 127 | 8 | | °C |
| 169 | Fro | **r14** | **2217** | RW | Hysteresis heat pump lock | WORD | | 0 ... 255 | 30 | -1 | °C |
| 170 | Fro | **r15** | **2218** | RW | Enabled supplementary Electrical Heaters in Heating | WORD | | 0 ... 1 | 0 | | Flag |
| 171 | Fro | **r16** | **2219** | RW | Enabled supplementary Electrical Heaters in dehumidification | WORD | | 0 ... 1 | 0 | | Flag |
| 172 | Fro | **r17** | **2220** | RW | Hysterisis triggering pump due to external temperature | WORD | | 0 ... 255 | 10 | -1 | °C |
| 173 | Fro | **r18** | **2221** | RW | Minimum hot water pump on time | WORD | | 0 ... 255 | 6 | 1 | s |
| 174 | Fro | **r19** | **2222** | RW | Enabled hot water in antifreeze | WORD | | 0 ... 1 | 0 | | Flag |

| | Read: 1 WORD Write: 1 WORD | | | | | | | | | | |
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| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 175 | dFr | d01 | 2223 | RW | Defrost enable | WORD | | 0 … 1 | 1 | | Flag |
| 176 | dFr | d02 | 2224 | RW | Set point T/P start defrost | WORD | Y | -500 … 800 | 40 | -1 | °C - Kpa*100 |
| 177 | dFr | d03 | 2225 | RW | Cumulative time before defrost start | WORD | | 0 … 255 | 30 | | Min |
| 178 | dFr | d04 | 2226 | RW | Set point T/P end defrost | WORD | Y | -500 … 800 | 120 | -1 | °C - Kpa*100 |
| 179 | dFr | d05 | 2227 | RW | Max defrost time | WORD | | 0 … 255 | 5 | | Min |
| 180 | dFr | d06 | 2228 | RW | Valve delay at defrost start | WORD | | 0 … 255 | 10 | | s |
| 181 | dFr | d07 | 2229 | RW | Valve-compressor delay at defrost start | WORD | | 0 … 255 | 10 | | s |
| 182 | dFr | d08 | 2230 | RW | Dripping time | WORD | | 0 … 255 | 30 | | s |
| 183 | dFr | d09 | 2231 | RW | Valve-compressor delay at defrost end | WORD | | 0 … 255 | 10 | | s |
| 184 | dFr | d10 | 2232 | RW | Enabled fan during dripping | WORD | | 0 … 1 | 0 | | Flag |
| 185 | dFr | d11 | 2233 | RW | Delay circuits defrost | WORD | | 0 … 255 | 2 | | Min |
| 186 | dFr | d12 | 2234 | RW | Configuration end defrost probe circuit 1 | WORD | | 0 … 2 | 1 | | Num |
| 187 | dFr | d13 | 2235 | RW | Configuration end defrost probe circuit 2 | WORD | | 0 … 2 | 2 | | Num |
| 188 | dFr | d14 | 2236 | RW | Delay ON compressors defrost | WORD | | 0 … 255 | 0 | | s |
| 189 | ESP | N01 | 2237 | RW | ID12 ID13 ID14 ID15 polarity | WORD | | 0 … 15 | 0 | | Num |
| 190 | ESP | N02 | 2238 | RW | ID12 Configuration | WORD | | 0 … 25 | 0 | | Num |
| 191 | ESP | N03 | 2239 | RW | ID13 Configuration | WORD | | 0 … 25 | 0 | | Num |
| 192 | ESP | N04 | 2240 | RW | ID14 Configuration | WORD | | 0 … 25 | 0 | | Num |
| 193 | ESP | N05 | 2241 | RW | ID15 Configuration | WORD | | 0 … 25 | 0 | | Num |
| 194 | ESP | N06 | 2242 | RW | RL9 output relay configuration | WORD | | 0 … 16 | 0 | | Num |
| 195 | ESP | N07 | 2243 | RW | RL10 output relay configuration | WORD | | 0 … 16 | 0 | | Num |
| 196 | ESP | N08 | 2244 | RW | RL11 output relay configuration | WORD | | 0 … 16 | 0 | | Num |
| 197 | ESP | N09 | 2245 | RW | RL12 output relay configuration | WORD | | 0 … 16 | 0 | | Num |
| 198 | ESP | N10 | 2246 | RW | RL13 output relay configuration | WORD | | 0 … 16 | 0 | | Num |
| 199 | ESP | N11 | 2247 | RW | AI7 Configuration | WORD | | 0 … 2 | 0 | | Num |
| 200 | ESP | N12 | 2248 | RW | AI8 Configuration | WORD | | 0 … 3 | 0 | | Num |
| 201 | ESP | N13 | 2249 | RW | AI7 AI8 polarity | WORD | | 0 … 3 | 0 | | Num |
| 202 | ESP | N14 | 2250 | RW | AI7 configuration if digital input | WORD | | 0 … 25 | 0 | | Num |
| 203 | ESP | N15 | 2251 | RW | AI8 configuration if digital | WORD | | 0 … 25 | 0 | | Num |
| 204 | FrC | L01 | 2252 | RW | Enabled freecooling | WORD | | 0 … 1 | 0 | | Flag |
| 205 | FrC | L02 | 2253 | RW | Offset freecooling Cooling | WORD | | 0 … 255 | 150 | -1 | °C |

| | | | | | Read: 1 WORD | | | | | | |
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| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 206 | FrC | L03 | 2254 | RW | Freecooling/freeheating proportional band Cooling | WORD | | 0 … 255 | 100 | -1 | °C |
| 207 | FrC | L04 | 2255 | RW | Offset freecooling Heating | WORD | | 0 … 255 | 150 | -1 | °C |
| 208 | FrC | L05 | 2256 | RW | Freecooling/freeheating proportional band Heating | WORD | | 0 … 255 | 100 | -1 | °C |
| 209 | FrC | L06 | 2257 | RW | Differential for freecooling T | WORD | | 0 … 255 | 100 | -1 | °C |
| 210 | FrC | L07 | 2258 | RW | Minimun opening damper | WORD | | 0 … 100 | 30 | | % |
| 211 | FrC | L08 | 2259 | RW | Set point for freecooling lock | WORD | Y | -127 … 127 | 1 | | °C |
| 212 | FrC | L09 | 2260 | RW | Hysterisis of freecooling lock | WORD | | 0 … 255 | 200 | -1 | °C |
| 213 | FrC | L10 | 2261 | RW | Set point for freecooling H Cooling | WORD | | 0 … 255 | 50 | | KJ/Kg |
| 214 | FrC | L11 | 2262 | RW | H freecooling proportional band Cooling | WORD | | 0 … 255 | 5 | | KJ/Kg |
| 215 | FrC | L12 | 2263 | RW | Set point for freecooling H Heating | WORD | | 0 … 255 | 50 | | KJ/Kg |
| 216 | FrC | L13 | 2264 | RW | H freecooling proportional band Heating | WORD | | 0 … 255 | 5 | | KJ/Kg |
| 217 | FrC | L14 | 2265 | RW | Differential for activation of freecooling H | WORD | | 0 … 255 | 3 | | KJ/Kg |
| 218 | FrC | L15 | 2266 | RW | External humidity simulation | WORD | | 0 … 100 | 0 | | % |
| 219 | FrC | L16 | 2267 | RW | Set point for humidification Heating | WORD | | 0 … 100 | 30 | | % |
| 220 | FrC | L17 | 2268 | RW | Set point for humidification Cooling | WORD | | 0 … 100 | 35 | | % |
| 221 | FrC | L18 | 2269 | RW | Humidification hysterisis | WORD | | 0 … 100 | 5 | | % |
| 222 | FrC | L19 | 2270 | RW | Set point for dehumidification | WORD | | 0 … 100 | 50 | | % |
| 223 | FrC | L20 | 2271 | RW | Dehumidification hysterisis | WORD | | 0 … 100 | 4 | | % |
| 224 | FrC | L21 | 2272 | RW | Differential for dehumidification lock temperature | WORD | | 0 … 255 | 100 | -1 | °C |
| 225 | FrC | L22 | 2273 | RW | Number of steps active during dehumidification | WORD | | 0 … 4 | 4 | | Num |
| 226 | FrC | L23 | 2274 | RW | Duration of "night purging" function | WORD | | 0 … 255 | 1 | 1 | Min |
| 227 | FrC | L24 | 2275 | RW | Set point for "night purging" | WORD | Y | -127 … 127 | 15 | | °C |
| 228 | FrC | L25 | 2276 | RW | Differential for economy function | WORD | Y | -127 … 127 | 50 | -1 | °C |
| 229 | FrC | L26 | 2277 | RW | Set point CO2 for minimum gate opening | WORD | | 0 … 100 | 10 | | % |
| 230 | | SEt | | RW | SEt | WORD | | 0 … 0 | 0 | | Num |
| 231 | | tp | | RW | TP | WORD | | 0 … 0 | 0 | | Num |
| 232 | | Err | | RW | ERR | WORD | | 0 … 0 | 0 | | Num |
| 233 | | id | | RW | ID | WORD | | 0 … 0 | 0 | | Num |

| Read: 1 WORD Write: 1 WORD | | | | | | | | | | |
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| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 234 | | PAr | | RW | PAr | WORD | | 0 … 0 | 0 | | Num |
| 235 | | PSS | | RW | PSS | WORD | | 0 … 0 | 0 | | Num |
| 236 | | OHr | | RW | OHr | WORD | | 0 … 0 | 0 | | Num |
| 237 | | Coo | | RW | COO | WORD | | 0 … 0 | 0 | | Num |
| 238 | | HEA | | RW | HEA | WORD | | 0 … 0 | 0 | | Num |
| 239 | | CnF | | RW | CnF | WORD | | 0 … 0 | 0 | | Num |
| 240 | | ALL | | RW | ALL | WORD | | 0 … 0 | 0 | | Num |
| 241 | | CP | | RW | CP | WORD | | 0 … 0 | 0 | | Num |
| 242 | | rE | | RW | rE (Y) | WORD | | 0 … 0 | 0 | | Num |
| 243 | | FAn | | RW | FAN | WORD | | 0 … 0 | 0 | | Num |
| 244 | | PUP | | RW | PUP | WORD | | 0 … 0 | 0 | | Num |
| 245 | | Fro | | RW | Fro | WORD | | 0 … 0 | 0 | | Num |
| 246 | | dFr | | RW | dFr | WORD | | 0 … 0 | 0 | | Num |
| 247 | | ESP | | RW | ESP | WORD | | 0 … 0 | 0 | | Num |
| 248 | | FrC | | RW | FrC | WORD | | 0 … 0 | 0 | | Num |
| 249 | | OH1 | | RW | OH1 | WORD | | 0 … 0 | 0 | | Num |
| 250 | | OH2 | | RW | OH2 | WORD | | 0 … 0 | 0 | | Num |
| 251 | | OH3 | | RW | OH3 | WORD | | 0 … 0 | 0 | | Num |
| 252 | | OH4 | | RW | OH4 | WORD | | 0 … 0 | 0 | | Num |
| 253 | | OHF | | RW | OHF | WORD | | 0 … 0 | 0 | | Num |
| 254 | | G01 | 6145 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 255 | | G02 | 6146 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 256 | | H01 | 6147 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 257 | | H02 | 6148 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 258 | | H03 | 6149 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 259 | | H04 | 6150 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 260 | | H05 | 6151 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 261 | | H06 | 6152 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 262 | | H07 | 6153 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 263 | | H08 | 6154 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 264 | | H09 | 6155 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| | Read: 1 WORD<br>Write: 1 WORD | | | | | | | | | | |
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| 265 | | H10 | 6156 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 266 | | H11 | 6157 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 267 | | H12 | 6158 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 268 | | H13 | 6159 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 269 | | H14 | 6160 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 270 | | H15 | 6161 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 271 | | H16 | 6162 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 272 | | H17 | 6163 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 273 | | H18 | 6164 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 274 | | H19 | 6165 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 275 | | H20 | 6166 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 276 | | H21 | 6167 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 277 | | H22 | 6168 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 278 | | H23 | 6169 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 279 | | H24 | 6170 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 280 | | H25 | 6171 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 281 | | H26 | 6172 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 282 | | H27 | 6173 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 283 | | H28 | 6174 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 284 | | H29 | 6175 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 285 | | H30 | 6176 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 286 | | H31 | 6177 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 287 | | H32 | 6178 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 288 | | H33 | 6179 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 289 | | H34 | 6180 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 290 | | H35 | 6181 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 291 | | H36 | 6182 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 292 | | H37 | 6183 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 293 | | H38 | 6184 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 294 | | H39 | 6185 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 295 | | H40 | 6186 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| | Read: 1 WORD Write: 1 WORD | | | | | | | | | | |
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| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 296 | | H41 | 6187 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 297 | | H42 | 6188 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 298 | | H43 | 6189 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 299 | | H44 | 6190 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 300 | | H45 | 6191 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 301 | | H46 | 6192 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 302 | | H47 | 6193 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 303 | | H48 | 6194 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 304 | | H49 | 6195 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 305 | | H50 | 6196 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 306 | | H51 | 6197 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 307 | | H52 | 6198 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 308 | | H53 | 6199 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 309 | | H54 | 6200 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 310 | | H55 | 6201 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 311 | | H56 | 6202 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 312 | | H57 | 6203 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 313 | | H58 | 6204 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 314 | | H59 | 6205 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 315 | | H60 | 6206 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 316 | | H61 | 6207 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 317 | | H62 | 6208 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 318 | | H63 | 6209 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 319 | | H64 | 6210 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 320 | | H65 | 6211 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 321 | | H66 | 6212 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 322 | | H67 | 6213 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 323 | | H68 | 6214 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 324 | | H69 | 6215 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 325 | | H70 | 6216 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 326 | | H71 | 6217 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

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| 327 | | H72 | 6218 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 328 | | H73 | 6219 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 329 | | H74 | 6220 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 330 | | H75 | 6221 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 331 | | H76 | 6222 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 332 | | H77 | 6223 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 333 | | H78 | 6224 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 334 | | H79 | 6225 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 335 | | H80 | 6226 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 336 | | A01 | 6227 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 337 | | A02 | 6228 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 338 | | A03 | 6229 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 339 | | A04 | 6230 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 340 | | A05 | 6231 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 341 | | A06 | 6232 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 342 | | A07 | 6233 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 343 | | A08 | 6234 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 344 | | A09 | 6235 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 345 | | A10 | 6236 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 346 | | A11 | 6237 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 347 | | A12 | 6238 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 348 | | A13 | 6239 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 349 | | A14 | 6240 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 350 | | A15 | 6241 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 351 | | A16 | 6242 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 352 | | A17 | 6243 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 353 | | A18 | 6244 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 354 | | A19 | 6245 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 355 | | A20 | 6246 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 356 | | A21 | 6247 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 357 | | A22 | 6248 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Read: 1 WORD** | | | | | | |
| | | | | | **Write: 1 WORD** | | | | | | |
| 358 | | **A23** | **6249** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 359 | | **A24** | **6250** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 360 | | **A25** | **6251** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 361 | | **A26** | **6252** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 362 | | **A27** | **6253** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 363 | | **A28** | **6254** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 364 | | **A29** | **6255** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 365 | | **A30** | **6256** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 366 | | **A31** | **6257** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 367 | | **A32** | **6258** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 368 | | **C01** | **6259** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 369 | | **C02** | **6260** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 370 | | **C03** | **6261** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 371 | | **C04** | **6262** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 372 | | **C05** | **6263** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 373 | | **b01** | **6264** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 374 | | **b02** | **6265** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 375 | | **b03** | **6266** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 376 | | **b04** | **6267** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 377 | | **b05** | **6268** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 378 | | **b06** | **6269** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 379 | | **b07** | **6270** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 380 | | **b08** | **6271** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 381 | | **F01** | **6272** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 382 | | **F02** | **6273** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 383 | | **F03** | **6274** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 384 | | **F04** | **6275** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 385 | | **F05** | **6276** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 386 | | **F06** | **6277** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 387 | | **F07** | **6278** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 388 | | **F08** | **6279** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| Read: 1 WORD Write: 1 WORD | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 389 | | F09 | 6280 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 390 | | F10 | 6281 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 391 | | F11 | 6282 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 392 | | F12 | 6283 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 393 | | F13 | 6284 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 394 | | F14 | 6285 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 395 | | F15 | 6286 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 396 | | F16 | 6287 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 397 | | F17 | 6288 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 398 | | F18 | 6289 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 399 | | F19 | 6290 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 400 | | F20 | 6291 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 401 | | F21 | 6292 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 402 | | F22 | 6293 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 403 | | F23 | 6294 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 404 | | F24 | 6295 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 405 | | P01 | 6296 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 406 | | P02 | 6297 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 407 | | P03 | 6298 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 408 | | P04 | 6299 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 409 | | r01 | 6300 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 410 | | r02 | 6301 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 411 | | r03 | 6302 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 412 | | r04 | 6303 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 413 | | r05 | 6304 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 414 | | r06 | 6305 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 415 | | r07 | 6306 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 416 | | r08 | 6307 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 417 | | r09 | 6308 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 418 | | r10 | 6309 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 419 | | r11 | 6310 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Read: 1 WORD** **Write: 1 WORD** | | | | | | | | | | | |
| *INDEX* | *FOLDER* | *LABEL* | *ADDRESS* | *R/W* | DESCRIPTION | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 420 | | **r12** | **6311** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 421 | | **r13** | **6312** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 422 | | **r14** | **6313** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 423 | | **r15** | **6314** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 424 | | **r16** | **6315** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 425 | | **r17** | **6316** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 426 | | **r18** | **6317** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 427 | | **r19** | **6318** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 428 | | **d01** | **6319** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 429 | | **d02** | **6320** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 430 | | **d03** | **6321** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 431 | | **d04** | **6322** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 432 | | **d05** | **6323** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 433 | | **d06** | **6324** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 434 | | **d07** | **6325** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 435 | | **d08** | **6326** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 436 | | **d09** | **6327** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 437 | | **d10** | **6328** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 438 | | **d11** | **6329** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 439 | | **d12** | **6330** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 440 | | **d13** | **6331** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 441 | | **d14** | **6332** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 442 | | **N01** | **6333** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 443 | | **N02** | **6334** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 444 | | **N03** | **6335** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 445 | | **N04** | **6336** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 446 | | **N05** | **6337** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 447 | | **N06** | **6338** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 448 | | **N07** | **6339** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 449 | | **N08** | **6340** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 450 | | **N09** | **6341** | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |

| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Read: 1 WORD** **Write: 1 WORD** | | | | | | |
| 451 | | **N10** | **6342** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 452 | | **N11** | **6343** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 453 | | **N12** | **6344** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 454 | | **N13** | **6345** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 455 | | **N14** | **6346** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 456 | | **N15** | **6347** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 457 | | **L01** | **6348** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 458 | | **L02** | **6349** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 459 | | **L03** | **6350** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 460 | | **L04** | **6351** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 461 | | **L05** | **6352** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 462 | | **L06** | **6353** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 463 | | **L07** | **6354** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 464 | | **L08** | **6355** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 465 | | **L09** | **6356** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 466 | | **L10** | **6357** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 467 | | **L11** | **6358** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 468 | | **L12** | **6359** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 469 | | **L13** | **6360** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 470 | | **L14** | **6361** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 471 | | **L15** | **6362** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 472 | | **L16** | **6363** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 473 | | **L17** | **6364** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 474 | | **L18** | **6365** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 475 | | **L19** | **6366** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 476 | | **L20** | **6367** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 477 | | **L21** | **6368** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 478 | | **L22** | **6369** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 479 | | **L23** | **6370** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 480 | | **L24** | **6371** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |
| 481 | | **L25** | **6372** | RW | Parameter visibility | WORD | | 0 ... 0 | 0 | | Num |

| Read: 1 WORD<br>Write: 1 WORD | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| INDEX | FOLDER | LABEL | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 482 | | L26 | 6373 | RW | Parameter visibility | WORD | | 0 … 0 | 0 | | Num |
| 483 | | SEt | 6374 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 484 | | tp | 6375 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 485 | | Err | 6376 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 486 | | id | 6377 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 487 | | PAr | 6378 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 488 | | PSS | 6379 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 489 | | OHr | 6380 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 490 | | Coo | 6381 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 491 | | HEA | 6382 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 492 | | CnF | 6383 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 493 | | ALL | 6384 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 494 | | CP | 6385 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 495 | | rE | 6386 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 496 | | FAn | 6387 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 497 | | PUP | 6388 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 498 | | Fro | 6389 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 499 | | dFr | 6390 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 500 | | ESP | 6391 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 501 | | FrC | 6392 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 502 | | OH1 | 6393 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 503 | | OH2 | 6394 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 504 | | OH3 | 6395 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 505 | | OH4 | 6396 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |
| 506 | | OHF | 6397 | RW | *Label* visibility | WORD | | 0 … 0 | 0 | | Num |

**2.5.3 Client Table**

| INDEX | FOLDER | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| Read: 12 WORD<br>Write: 11 WORD | | | | | | | | | | |
| 1 | | 4097 | R | Analogue input 1 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 2 | | 4098 | R | Analogue input 2 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 3 | | 4099 | R | Analogue input 3 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 4 | | 4100 | R | Analogue input 4 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 5 | | 4101 | R | Analogue input 5 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 6 | | 4102 | R | Analogue input 6 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 7 | | 4103 | R | Analogue input 7 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 8 | | 4104 | R | Analogue input 8 | WORD | Y | -670 ... 3020 | 0 | -1 | °C/°F |
| 9 | | 16499,13 | R | Status of digital input nr 1 | 1 bit | | 0 ... 1 | 0 | | num |
| 10 | | 16499,12 | R | Status of digital input nr 2 | 1 bit | | 0 ... 1 | 0 | | num |
| 11 | | 16499,11 | R | Status of digital input nr 3 | 1 bit | | 0 ... 1 | 0 | | num |
| 12 | | 16499,1 | R | Status of digital input nr 4 | 1 bit | | 0 ... 1 | 0 | | num |
| 13 | | 16499,2 | R | Status of digital input nr 5 | 1 bit | | 0 ... 1 | 0 | | num |
| 14 | | 16499,0 | R | Status of digital input nr 6 | 1 bit | | 0 ... 1 | 0 | | num |
| 15 | | 16499,3 | R | Status of digital input nr 7 | 1 bit | | 0 ... 1 | 0 | | num |
| 16 | | 16499,6 | R | Status of digital input nr 8 | 1 bit | | 0 ... 1 | 0 | | num |
| 17 | | 16499,7 | R | Status of digital input nr 9 | 1 bit | | 0 ... 1 | 0 | | num |
| 18 | | 16499,5 | R | Status of digital input nr 10 | 1 bit | | 0 ... 1 | 0 | | num |
| 19 | | 16499,8 | R | Status of digital input nr 11 | 1 bit | | 0 ... 1 | 0 | | num |
| 20 | | 16499,4 | R | Status of digital input nr 12 | 1 bit | | 0 ... 1 | 0 | | num |
| 21 | | 16499,9 | R | Status of digital input nr 13 | 1 bit | | 0 ... 1 | 0 | | num |
| 22 | | 16499,14 | R | Status of digital input nr 14 | 1 bit | | 0 ... 1 | 0 | | num |
| 23 | | 16499,15 | R | Status of digital input nr 15 | 1 bit | | 0 ... 1 | 0 | | num |
| 24 | | 16497,0 | R | Status of digital input nr 16 | 1 bit | | 0 ... 1 | 0 | | num |
| 25 | | 16497,1 | R | Status of digital input nr 17 | 1 bit | | 0 ... 1 | 0 | | num |
| 26 | | 16497,2 | R | Status of digital input nr 18 | 1 bit | | 0 ... 1 | 0 | | num |
| 27 | | 16497,3 | R | Status of digital input nr 19 | 1 bit | | 0 ... 1 | 0 | | num |
| 28 | | 16497,4 | R | Status of digital input nr 20 | 1 bit | | 0 ... 1 | 0 | | num |
| 29 | | 16497,5 | R | Status of digital input nr 21 | 1 bit | | 0 ... 1 | 0 | | num |

| INDEX | FOLDER | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | **Read: 12 WORD** **Write: 11 WORD** | | | | | | |
| 30 | | **14337** | R | Analogue output 1 | WORD | | 0 … 255 | 0 | | num |
| 31 | | **14338** | R | Analogue output 2 | WORD | | 0 … 255 | 0 | | num |
| 32 | | **14339** | R | Analogue output 3 | WORD | | 0 … 255 | 0 | | num |
| 33 | | **16891,1** | R | Relay 1 | 1 bit | | 0 … 1 | 0 | | num |
| 34 | | **16891,2** | R | Relay 2 | 1 bit | | 0 … 1 | 0 | | num |
| 35 | | **16891,3** | R | Relay 3 | 1 bit | | 0 … 1 | 0 | | num |
| 36 | | **16891,4** | R | Relay 4 | 1 bit | | 0 … 1 | 0 | | num |
| 37 | | **16891,5** | R | Relay 5 | 1 bit | | 0 … 1 | 0 | | num |
| 38 | | **16891,6** | R | Relay 6 | 1 bit | | 0 … 1 | 0 | | num |
| 39 | | **16891,7** | R | Relay 7 | 1 bit | | 0 … 1 | 0 | | num |
| 40 | | **16891,0** | R | Relay 8 | 1 bit | | 0 … 1 | 0 | | num |
| 41 | | **16891,15** | R | Relay 9 | 1 bit | | 0 … 1 | 0 | | num |
| 42 | | **16891,14** | R | Relay 10 | 1 bit | | 0 … 1 | 0 | | num |
| 43 | | **16891,12** | R | Relay 11 | 1 bit | | 0 … 1 | 0 | | num |
| 44 | | **16891,13** | R | Relay 12 | 1 bit | | 0 … 1 | 0 | | num |
| 45 | | **16891,11** | R | Relay 13 | 1 bit | | 0 … 1 | 0 | | num |
| 46 | | **16525,8** | RW | COOL | 1 bit | | 0 … 1 | 0 | | num |
| 47 | | **16525,9** | RW | HEAT | 1 bit | | 0 … 1 | 0 | | num |
| 48 | | **16525,15** | RW | ONOFF | 1 bit | | 0 … 1 | 0 | | num |
| 49 | | **17298,10** | R | Keyboard change-over enabled | 1 bit | | 0 … 1 | 0 | | num |
| 50 | | **17302,13** | R | Digital control of temperature controller | 1 bit | | 0 … 1 | 0 | | num |
| 51 | | **17302,15** | R | Enable autotest | 1 bit | | 0 … 1 | 0 | | num |
| 52 | | **17304,8** | R | Night purging function enabled | 1 bit | | 0 … 1 | 0 | | num |
| 53 | | **17304,9** | R | Night purging function on | 1 bit | | 0 … 1 | 0 | | num |
| 54 | | **17304,10** | R | EKF keyboard present | 1 bit | | 0 … 1 | 0 | | num |
| 55 | | **17304,11** | R | EKW/EKP keyboard present | 1 bit | | 0 … 1 | 0 | | num |
| 56 | | **16527** | R | Operating hours Compressor 1 | WORD | | 0 … 65535 | 0 | | num |
| 57 | | **16529** | R | Operating hours Compressor 2 | WORD | | 0 … 65535 | 0 | | num |
| 58 | | **16531** | R | Operating hours Compressor 3 | WORD | | 0 … 65535 | 0 | | num |
| 59 | | **16533** | R | Operating hours Compressor 4 | WORD | | 0 … 65535 | 0 | | num |
| 60 | | **16535** | R | Operating hours Pump | WORD | | 0 … 65535 | 0 | | num |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Read: 12 WORD** | | | | | | | | | | |
| **Write: 11 WORD** | | | | | | | | | | |
| *INDEX* | *FOLDER* | *ADDRESS* | *R/W* | **DESCRIPTION** | *DATA SIZE* | *CPL* | *RANGE* | *DEFAULT* | *EXP* | *M.U.* |
| 61 | | **17089,8** | R | Remote ON-OFF digital input | 1 bit | | 0 … 1 | 0 | | num |
| 62 | | **17089,9** | R | High pressure alarm input circuit 1 | 1 bit | | 0 … 1 | 0 | | num |
| 63 | | **17089,10** | R | Low pressure alarm input circuit 1 | 1 bit | | 0 … 1 | 0 | | num |
| 64 | | **17089,11** | R | Thermal switch alarm input compressor 1 | 1 bit | | 0 … 1 | 0 | | num |
| 65 | | **17089,12** | R | Thermal switch alarm input fan 1 | 1 bit | | 0 … 1 | 0 | | num |
| 66 | | **17089,13** | R | Internal anti-freeze alarm threshold exceeded | 1 bit | | 0 … 1 | 0 | | num |
| 67 | | **17089,14** | R | Analogue input 2 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 68 | | **17089,15** | R | Analogue input 3 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 69 | | **17089,0** | R | Thermal switch alarm input compressor 2 | 1 bit | | 0 … 1 | 0 | | num |
| 70 | | **17089,1** | R | High pressure alarm input circuit 2 | 1 bit | | 0 … 1 | 0 | | num |
| 71 | | **17089,2** | R | Low pressure alarm input circuit 2 | 1 bit | | 0 … 1 | 0 | | num |
| 72 | | **17089,3** | R | Thermal switch alarm input compressor 3 | 1 bit | | 0 … 1 | 0 | | num |
| 73 | | **17089,4** | R | Thermal switch alarm input fan 2 | 1 bit | | 0 … 1 | 0 | | num |
| 74 | | **17089,5** | R | Analogue input 5 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 75 | | **17089,6** | R | Analogue input 6 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 76 | | **17089,7** | R | Thermal switch alarm input compressor 4 | 1 bit | | 0 … 1 | 0 | | num |
| 77 | | **17091,8** | R | Analogue input 1 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 78 | | **17091,9** | R | Flow switch alarm input | 1 bit | | 0 … 1 | 0 | | num |
| 79 | | **17091,10** | R | Analogue input 4 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 80 | | **17091,11** | R | Error on digital inputs change-over | 1 bit | | 0 … 1 | 0 | | num |
| 81 | | **17091,12** | R | Water temperature too hot | 1 bit | | 0 … 1 | 0 | | num |
| 82 | | **17091,13** | R | Analogue input 7 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 83 | | **17091,14** | R | Analogue input 8 faulty | 1 bit | | 0 … 1 | 0 | | num |
| 84 | | **17091,15** | R | Evaporator fan thermal switch disabled alarm | 1 bit | | 0 … 1 | 0 | | num |
| 85 | | **17091,0** | R | Worn filters | 1 bit | | 0 … 1 | 0 | | num |
| 86 | | **17091,1** | R | Dirty filters | 1 bit | | 0 … 1 | 0 | | num |
| 87 | | **17091,2** | R | Thermal switch R12 tripped | 1 bit | | 0 … 1 | 0 | | num |
| 88 | | **17091,3** | R | Thermal switch R34 tripped | 1 bit | | 0 … 1 | 0 | | num |
| 89 | | **17091,4** | R | Humidifier alarm | 1 bit | | 0 … 1 | 0 | | num |
| 90 | | **17091,5** | R | Fire alarm | 1 bit | | 0 … 1 | 0 | | num |
| 91 | | **17091,6** | R | Evaporator thermal switch alarm | 1 bit | | 0 … 1 | 0 | | num |

| Read: 12 WORD<br>Write: 11 WORD | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| INDEX | FOLDER | ADDRESS | R/W | DESCRIPTION | DATA SIZE | CPL | RANGE | DEFAULT | EXP | M.U. |
| 92 | | 17093,8 | R | Remote ON-OFF digital input (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 93 | | 17093,9 | R | High pressure alarm input circuit 1 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 94 | | 17093,10 | R | Low pressure alarm input circuit 1 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 95 | | 17093,11 | R | Thermal switch alarm input compressor 1 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 96 | | 17093,12 | R | Thermal switch alarm input fan 1 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 97 | | 17093,13 | R | Internal anti-freeze alarm threshold exceeded (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 98 | | 17093,14 | R | Analogue input 2 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 99 | | 17093,15 | R | Analogue input 3 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 100 | | 17093,0 | R | Thermal switch alarm input compressor 2 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 101 | | 17093,1 | R | High pressure alarm input circuit 2 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 102 | | 17093,2 | R | Low pressure alarm input circuit 2 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 103 | | 17093,3 | R | Thermal switch alarm input compressor 3 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 104 | | 17093,4 | R | Thermal switch alarm input fan 2 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 105 | | 17093,5 | R | Analogue input 5 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 106 | | 17093,6 | R | Analogue input 6 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 107 | | 17093,7 | R | Thermal switch alarm input compressor 4 (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 108 | | 17095,8 | R | Analogue input 1 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 109 | | 17095,9 | R | Flow switch alarm input (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 110 | | 17095,10 | R | Analogue input 4 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 111 | | 17095,11 | R | Error on digital inputs change-over (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 112 | | 17095,12 | R | Water temperature too hot (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 113 | | 17095,13 | R | Analogue input 7 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 114 | | 17095,14 | R | Analogue input 8 faulty (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 115 | | 17095,15 | R | Evaporator fan thermal switch disabled alarm (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 116 | | 17095,0 | R | Worn filters (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 117 | | 17095,1 | R | Dirty filters (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 118 | | 17095,2 | R | Thermal switch R12 tripped (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 119 | | 17095,3 | R | Thermal switch R34 tripped (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 120 | | 17095,4 | R | Humidifier alarm (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 121 | | 17095,5 | R | Fire alarm (manual reset) | 1 bit | | 0 … 1 | 0 | | num |
| 122 | | 17095,6 | R | Evaporator fan thermal switch alarm (manual reset) | 1 bit | | 0 … 1 | 0 | | num |

# 3  ANALITIC INDEX