



*komfovent*

## MODBUS CONNECTION C5

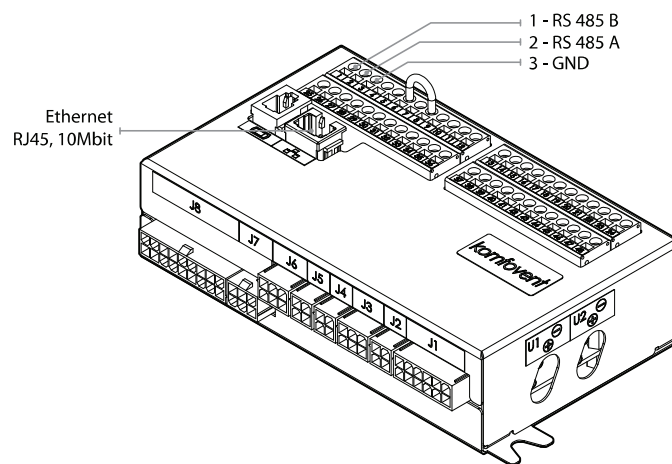
C5 controller supports Modbus RTU and Modbus TCP/IP protocols

**Modbus RTU** protocol works via RS485 interface, connection is provided to terminals 1,2,3 of the C5 controller (Pic. 1). Default interface settings and ID are as follows:

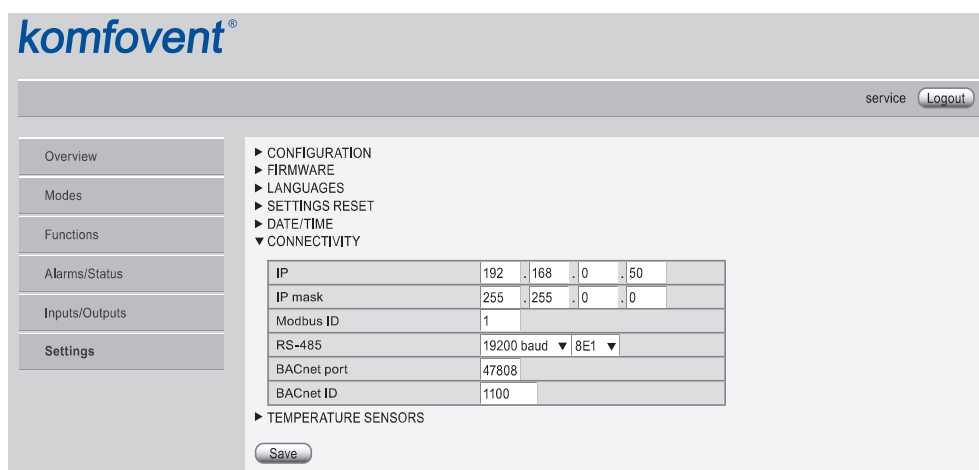
|             |       |
|-------------|-------|
| Baudrate    | 19200 |
| Word length | 8     |
| Parity      | EVEN  |
| Stop bits   | 1     |
| Modbus ID   | 1     |

These settings can be changed using laptop connected to webserver (Pic. 2). To connect devices use twisted pair cable. Maximum cable length is 150m. Connect GND cables together, if distance between the RS485 interfaces is more than 10m.

**Modbus TCP** protocol uses Ethernet interface, connection is provided to RJ-45 socket (Pic.1) on the C5 controller (CAT5 cable is recommended). The maximum cable length between device and C5 controller board must not exceed 100m. Default IP address is 192.168.0.50, port 502. The IP address can be changed using laptop connected to webserver (Pic. 2) or control panel (Pic. 3).



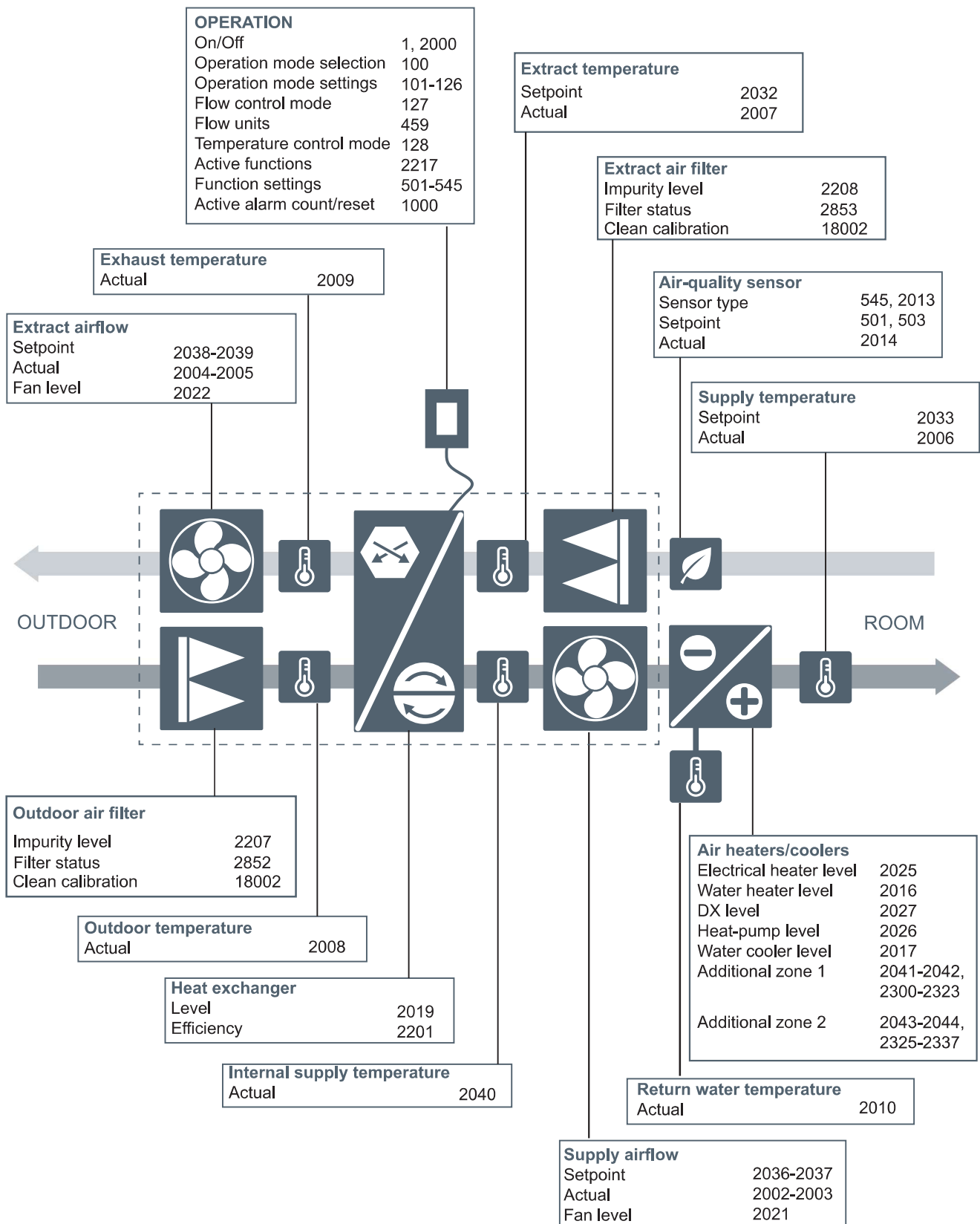
Picture 1. C5 controller board



Picture 2. Connectivity settings



When using Modbus RTU or Modbus TCP/IP, minimum polling time should be 500 ms or longer. In cases when multiple AHU's are connected to the same Modbus network, at least 1s. polling time is recommended.



Following tables lists available Modbus registers

| MODES           |       |        |        |         |                                |                                                                                                  |
|-----------------|-------|--------|--------|---------|--------------------------------|--------------------------------------------------------------------------------------------------|
| Modbus register | Data  |        |        |         | Description                    | Data values                                                                                      |
|                 | Type  | Access | Range  | Default |                                |                                                                                                  |
| 1               | int   | R/W    | 0-1    | 0       | AHU On/Off control             | 0-Off, 1-On                                                                                      |
| 100             | int   | R/W    | 1-6    | 1       | Operation mode selection       | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program                             |
| 101-102         | int32 | R/W    | -      | -       | Comfort1: Supply flow          | Auto-correction to be within allowed range (20-100% of maximum supply flow or 0)                 |
| 103-104         | int32 | R/W    | -      | -       | Comfort1: Extract flow         | Auto-correction to be within allowed range (20-100% of maximum extract flow or 0)                |
| 105             | int   | R/W    | 50-400 | 210     | Comfort1: Setpoint temperature | 200 => 20,0C                                                                                     |
| 106-107         | int32 | R/W    | -      | -       | Comfort2: Supply flow          | Auto-correction to be within allowed range (20-100% of maximum supply flow or 0)                 |
| 108-109         | int32 | R/W    | -      | -       | Comfort2: Extract flow         | Auto-correction to be within allowed range (20-100% of maximum extract flow or 0)                |
| 110             | int   | R/W    | 50-400 | 210     | Comfort2: Setpoint temperature | 200 => 20,0C                                                                                     |
| 111-112         | int32 | R/W    | -      | -       | Economy1: Supply flow          | Auto-correction to be within allowed range (20-100% of maximum supply flow or 0)                 |
| 113-114         | int32 | R/W    | -      | -       | Economy1: Extract flow         | Auto-correction to be within allowed range (20-100% of maximum extract flow or 0)                |
| 115             | int   | R/W    | 50-400 | 200     | Economy1: Setpoint temperature | 200 => 20,0C                                                                                     |
| 116-117         | int32 | R/W    | -      | -       | Economy2: Supply flow          | Auto-correction to be within allowed range (20-100% of maximum supply flow or 0)                 |
| 118-119         | int32 | R/W    | -      | -       | Economy2: Extract flow         | Auto-correction to be within allowed range (20-100% of maximum extract flow or 0)                |
| 120             | int   | R/W    | 50-400 | 190     | Economy2: Setpoint temperature | 200 => 20,0C                                                                                     |
| 121-122         | int32 | R/W    | -      | -       | Special: Supply flow           | Auto-correction to be within allowed range (20-100% of maximum supply flow or 0)                 |
| 123-124         | int32 | R/W    | -      | -       | Special: Extract flow          | Auto-correction to be within allowed range (20-100% of maximum extract flow or 0)                |
| 125             | int   | R/W    | 50-400 | 210     | Special: Setpoint temperature  | 200 => 20,0C                                                                                     |
| 126             | bin   | R/W    | -      | 31      | Special: Configuration         | b4-Dehumidifying, b3-Humidifying, b2-Recirculation, b1-Cooling, b0-Heating (1-Enable, 0-Disable) |
| 127             | int   | R/W    | 0-2    | 0       | Flow control mode              | 0-CAV, 1-VAV, 2 - DCV                                                                            |
| 128             | int   | R/W    | 0-2    | 0       | Temp. control mode             | 0-Supply, 1-Extract, 2-Room                                                                      |

|     |     |     |          |     |                             |                                                                                                             |
|-----|-----|-----|----------|-----|-----------------------------|-------------------------------------------------------------------------------------------------------------|
| 129 | int | R/W | 0-4      | 0   | VAV status/<br>calibration  | 0-Not calibrated, 1-Calibrating, 2-Supply,<br>3-Extract, 4-Double. Write 0x99C5 to start<br>VAV calibration |
| 130 | int | R/W | 100-5000 | 500 | VAV sensors<br>range        | 500 => 500Pa                                                                                                |
| 131 | int | R/W | 0-4500   | 0   | Nominal supply<br>pressure  | Auto-correction to be within allowed range<br>(0-90% of VAV sensors range)                                  |
| 132 | int | R/W | 0-4500   | 0   | Nominal exhaust<br>pressure | Auto-correction to be within allowed range<br>(0-90% of VAV sensors range)                                  |

| OPERATION PROGRAM  |        |        |            |         |                        |                                                                                  |
|--------------------|--------|--------|------------|---------|------------------------|----------------------------------------------------------------------------------|
| Modbus<br>register | Data   |        |            |         | Description            | Data values                                                                      |
|                    | Type   | Access | Range      | Default |                        |                                                                                  |
| 200                | bin    | R/W    | -          | 0       | Event01: Days          | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed,<br>b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 201                | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event01: Start<br>time | 0x0805 => 8:05                                                                   |
| 202                | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event01: Stop<br>time  | 0x0805 => 8:05                                                                   |
| 203                | int    | R/W    | 0-5        | 0       | Event01: Mode          | 0-Standby,1-Comfort1, 2-Comfort2,<br>3-Economy1, 4-Economy2, 5-Special           |
| 204                | bin    | R/W    | -          | 0       | Event02: Days          | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed,<br>b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 205                | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event02: Start<br>time | 0x0805 => 8:05                                                                   |
| 206                | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event02: Stop<br>time  | 0x0805 => 8:05                                                                   |
| 207                | int    | R/W    | 0-5        | 0       | Event02: Mode          | 0-Standby,1-Comfort1, 2-Comfort2,<br>3-Economy1, 4-Economy2, 5-Special           |
| 208                | bin    | R/W    | -          | 0       | Event03: Days          | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed,<br>b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 209                | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event03: Start<br>time | 0x0805 => 8:05                                                                   |
| 210                | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event03: Stop<br>time  | 0x0805 => 8:05                                                                   |
| 211                | int    | R/W    | 0-5        | 0       | Event03: Mode          | 0-Standby,1-Comfort1, 2-Comfort2,<br>3-Economy1, 4-Economy2, 5-Special           |
| 212                | bin    | R/W    | -          | 0       | Event04: Days          | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed,<br>b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 213                | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event04: Start<br>time | 0x0805 => 8:05                                                                   |
| 214                | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event04: Stop<br>time  | 0x0805 => 8:05                                                                   |
| 215                | int    | R/W    | 0-5        | 0       | Event04: Mode          | 0-Standby,1-Comfort1, 2-Comfort2,<br>3-Economy1, 4-Economy2, 5-Special           |
| 216                | bin    | R/W    | -          | 0       | Event05: Days          | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed,<br>b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 217                | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event05: Start<br>time | 0x0805 => 8:05                                                                   |
| 218                | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event05: Stop<br>time  | 0x0805 => 8:05                                                                   |

| OPERATION PROGRAM |        |        |            |         |                     |                                                                               |
|-------------------|--------|--------|------------|---------|---------------------|-------------------------------------------------------------------------------|
| Modbus register   | Data   |        |            |         | Description         | Data values                                                                   |
|                   | Type   | Access | Range      | Default |                     |                                                                               |
| 219               | int    | R/W    | 0-5        | 0       | Event05: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 220               | bin    | R/W    | -          | 0       | Event06: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 221               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event06: Start time | 0x0805 => 8:05                                                                |
| 222               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event06: Stop time  | 0x0805 => 8:05                                                                |
| 223               | int    | R/W    | 0-5        | 0       | Event06: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 224               | bin    | R/W    | -          | 0       | Event07: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 225               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event07: Start time | 0x0805 => 8:05                                                                |
| 226               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event07: Stop time  | 0x0805 => 8:05                                                                |
| 227               | int    | R/W    | 0-5        | 0       | Event07: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 228               | bin    | R/W    | -          | 0       | Event08: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 229               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event08: Start time | 0x0805 => 8:05                                                                |
| 230               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event08: Stop time  | 0x0805 => 8:05                                                                |
| 231               | int    | R/W    | 0-5        | 0       | Event08: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 232               | bin    | R/W    | -          | 0       | Event09: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 233               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event09: Start time | 0x0805 => 8:05                                                                |
| 234               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event09: Stop time  | 0x0805 => 8:05                                                                |
| 235               | int    | R/W    | 0-5        | 0       | Event09: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 236               | bin    | R/W    | -          | 0       | Event10: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 237               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event10: Start time | 0x0805 => 8:05                                                                |
| 238               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event10: Stop time  | 0x0805 => 8:05                                                                |
| 239               | int    | R/W    | 0-5        | 0       | Event10: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 240               | bin    | R/W    | -          | 0       | Event11: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 241               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event11: Start time | 0x0805 => 8:05                                                                |

| OPERATION PROGRAM |        |        |            |         |                     |                                                                               |
|-------------------|--------|--------|------------|---------|---------------------|-------------------------------------------------------------------------------|
| Modbus register   | Data   |        |            |         | Description         | Data values                                                                   |
|                   | Type   | Access | Range      | Default |                     |                                                                               |
| 242               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event11: Stop time  | 0x0805 => 8:05                                                                |
| 243               | int    | R/W    | 0-5        | 0       | Event11: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 244               | bin    | R/W    | -          | 0       | Event12: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 245               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event12: Start time | 0x0805 => 8:05                                                                |
| 246               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event12: Stop time  | 0x0805 => 8:05                                                                |
| 247               | int    | R/W    | 0-5        | 0       | Event12: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 248               | bin    | R/W    | -          | 0       | Event13: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 249               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event13: Start time | 0x0805 => 8:05                                                                |
| 250               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event13: Stop time  | 0x0805 => 8:05                                                                |
| 251               | int    | R/W    | 0-5        | 0       | Event13: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 252               | bin    | R/W    | -          | 0       | Event14: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 253               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event14: Start time | 0x0805 => 8:05                                                                |
| 254               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event14: Stop time  | 0x0805 => 8:05                                                                |
| 255               | int    | R/W    | 0-5        | 0       | Event14: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 256               | bin    | R/W    | -          | 0       | Event15: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 257               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event15: Start time | 0x0805 => 8:05                                                                |
| 258               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event15: Stop time  | 0x0805 => 8:05                                                                |
| 259               | int    | R/W    | 0-5        | 0       | Event15: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 260               | bin    | R/W    | -          | 0       | Event16: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 261               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event16: Start time | 0x0805 => 8:05                                                                |
| 262               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event16: Stop time  | 0x0805 => 8:05                                                                |
| 263               | int    | R/W    | 0-5        | 0       | Event16: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 264               | bin    | R/W    | -          | 0       | Event17: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |

| OPERATION PROGRAM |        |        |            |         |                     |                                                                               |
|-------------------|--------|--------|------------|---------|---------------------|-------------------------------------------------------------------------------|
| Modbus register   | Data   |        |            |         | Description         | Data values                                                                   |
|                   | Type   | Access | Range      | Default |                     |                                                                               |
| 265               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event17: Start time | 0x0805 => 8:05                                                                |
| 266               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event17: Stop time  | 0x0805 => 8:05                                                                |
| 267               | int    | R/W    | 0-5        | 0       | Event17: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 268               | bin    | R/W    | -          | 0       | Event18: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 269               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event18: Start time | 0x0805 => 8:05                                                                |
| 270               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event18: Stop time  | 0x0805 => 8:05                                                                |
| 271               | int    | R/W    | 0-5        | 0       | Event18: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 272               | bin    | R/W    | -          | 0       | Event19: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 273               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event19: Start time | 0x0805 => 8:05                                                                |
| 274               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event19: Stop time  | 0x0805 => 8:05                                                                |
| 275               | int    | R/W    | 0-5        | 0       | Event19: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |
| 276               | bin    | R/W    | -          | 0       | Event20: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 277               | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event20: Start time | 0x0805 => 8:05                                                                |
| 278               | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event20: Stop time  | 0x0805 => 8:05                                                                |
| 279               | int    | R/W    | 0-5        | 0       | Event20: Mode       | 0-Standby,1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special           |

| HOLLYDAY SCHEDULE |        |        |             |         |                     |                                                                                 |
|-------------------|--------|--------|-------------|---------|---------------------|---------------------------------------------------------------------------------|
| Modbus register   | Data   |        |             |         | Description         | Data values                                                                     |
|                   | Type   | Access | Range       | Default |                     |                                                                                 |
| 300               | int    | R/W    | 2010-2250   |         | Event01: Start year |                                                                                 |
| 301               | int8x2 | R/W    | 01.01-12.31 |         | Event01: Start date | 0x020C => Feb12                                                                 |
| 302               | int    | R/W    | 2010-2250   |         | Event01: Stop year  |                                                                                 |
| 303               | int8x2 | R/W    | 01.01-12.31 |         | Event01: Stop date  | 0x020C => Feb12                                                                 |
| 304               | int    | R/W    | 0-6         |         | Event01: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 305               | int    | R/W    | 2010-2250   |         | Event02: Start year |                                                                                 |

| HOLLYDAY SCHEDULE |        |        |             |         |                     |                                                                                 |
|-------------------|--------|--------|-------------|---------|---------------------|---------------------------------------------------------------------------------|
| Modbus register   | Data   |        |             |         | Description         | Data values                                                                     |
|                   | Type   | Access | Range       | Default |                     |                                                                                 |
| 306               | int8x2 | R/W    | 01.01-12.31 |         | Event02: Start date | 0x020C => Feb12                                                                 |
| 307               | int    | R/W    | 2010-2250   |         | Event02: Stop year  |                                                                                 |
| 308               | int8x2 | R/W    | 01.01-12.31 |         | Event02: Stop date  | 0x020C => Feb12                                                                 |
| 309               | int    | R/W    | 0-6         |         | Event02: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 310               | int    | R/W    | 2010-2250   |         | Event03: Start year |                                                                                 |
| 311               | int8x2 | R/W    | 01.01-12.31 |         | Event03: Start date | 0x020C => Feb12                                                                 |
| 312               | int    | R/W    | 2010-2250   |         | Event03: Stop year  |                                                                                 |
| 313               | int8x2 | R/W    | 01.01-12.31 |         | Event03: Stop date  | 0x020C => Feb12                                                                 |
| 314               | int    | R/W    | 0-6         |         | Event03: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 315               | int    | R/W    | 2010-2250   |         | Event04: Start year |                                                                                 |
| 316               | int8x2 | R/W    | 01.01-12.31 |         | Event04: Start date | 0x020C => Feb12                                                                 |
| 317               | int    | R/W    | 2010-2250   |         | Event04: Stop year  |                                                                                 |
| 318               | int8x2 | R/W    | 01.01-12.31 |         | Event04: Stop date  | 0x020C => Feb12                                                                 |
| 319               | int    | R/W    | 0-6         |         | Event04: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 320               | int    | R/W    | 2010-2250   |         | Event05: Start year |                                                                                 |
| 321               | int8x2 | R/W    | 01.01-12.31 |         | Event05: Start date | 0x020C => Feb12                                                                 |
| 322               | int    | R/W    | 2010-2250   |         | Event05: Stop year  |                                                                                 |
| 323               | int8x2 | R/W    | 01.01-12.31 |         | Event05: Stop date  | 0x020C => Feb12                                                                 |
| 324               | int    | R/W    | 0-6         |         | Event05: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 325               | int    | R/W    | 2010-2250   |         | Event06: Start year |                                                                                 |
| 326               | int8x2 | R/W    | 01.01-12.31 |         | Event06: Start date | 0x020C => Feb12                                                                 |
| 327               | int    | R/W    | 2010-2250   |         | Event06: Stop year  |                                                                                 |

| HOLLYDAY SCHEDULE |        |        |             |         |                     |                                                                                 |
|-------------------|--------|--------|-------------|---------|---------------------|---------------------------------------------------------------------------------|
| Modbus register   | Data   |        |             |         | Description         | Data values                                                                     |
|                   | Type   | Access | Range       | Default |                     |                                                                                 |
| 328               | int8x2 | R/W    | 01.01-12.31 |         | Event06: Stop date  | 0x020C => Feb12                                                                 |
| 329               | int    | R/W    | 0-6         |         | Event06: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 330               | int    | R/W    | 2010-2250   |         | Event07: Start year |                                                                                 |
| 331               | int8x2 | R/W    | 01.01-12.31 |         | Event07: Start date | 0x020C => Feb12                                                                 |
| 332               | int    | R/W    | 2010-2250   |         | Event07: Stop year  |                                                                                 |
| 333               | int8x2 | R/W    | 01.01-12.31 |         | Event07: Stop date  | 0x020C => Feb12                                                                 |
| 334               | int    | R/W    | 0-6         |         | Event07: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 335               | int    | R/W    | 2010-2250   |         | Event08: Start year |                                                                                 |
| 336               | int8x2 | R/W    | 01.01-12.31 |         | Event08: Start date | 0x020C => Feb12                                                                 |
| 337               | int    | R/W    | 2010-2250   |         | Event08: Stop year  |                                                                                 |
| 338               | int8x2 | R/W    | 01.01-12.31 |         | Event08: Stop date  | 0x020C => Feb12                                                                 |
| 339               | int    | R/W    | 0-6         |         | Event08: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 340               | int    | R/W    | 2010-2250   |         | Event09: Start year |                                                                                 |
| 341               | int8x2 | R/W    | 01.01-12.31 |         | Event09: Start date | 0x020C => Feb12                                                                 |
| 342               | int    | R/W    | 2010-2250   |         | Event09: Stop year  |                                                                                 |
| 343               | int8x2 | R/W    | 01.01-12.31 |         | Event09: Stop date  | 0x020C => Feb12                                                                 |
| 344               | int    | R/W    | 0-6         |         | Event09: Mode       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 345               | int    | R/W    | 2010-2250   |         | Event10: Start year |                                                                                 |
| 346               | int8x2 | R/W    | 01.01-12.31 |         | Event10: Start date | 0x020C => Feb12                                                                 |
| 347               | int    | R/W    | 2010-2250   |         | Event10: Stop year  |                                                                                 |
| 348               | int8x2 | R/W    | 01.01-12.31 |         | Event10: Stop date  | 0x020C => Feb12                                                                 |

| HOLLYDAY SCHEDULE |      |        |       |         |               |                                                                                 |
|-------------------|------|--------|-------|---------|---------------|---------------------------------------------------------------------------------|
| Modbus register   | Data |        |       |         | Description   | Data values                                                                     |
|                   | Type | Access | Range | Default |               |                                                                                 |
| 349               | int  | R/W    | 0-6   |         | Event10: Mode | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |

| RECIRCULATION SCHEDULE |        |        |            |         |                     |                                                                               |
|------------------------|--------|--------|------------|---------|---------------------|-------------------------------------------------------------------------------|
| Modbus register        | Data   |        |            |         | Description         | Data values                                                                   |
|                        | Type   | Access | Range      | Default |                     |                                                                               |
| 400                    | bin    | R/W    | -          | 0       | Event01: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 401                    | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event01: Start time | 0x0805 => 8:05                                                                |
| 402                    | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event01: Stop time  | 0x0805 => 8:05                                                                |
| 403                    | int    | R/W    | 0..100     | 0       | Event01: Level      |                                                                               |
| 404                    | bin    | R/W    | -          | 0       | Event02: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 405                    | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event02: Start time | 0x0805 => 8:05                                                                |
| 406                    | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event02: Stop time  | 0x0805 => 8:05                                                                |
| 407                    | int    | R/W    | 0..100     | 0       | Event02: Level      |                                                                               |
| 408                    | bin    | R/W    | -          | 0       | Event03: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 409                    | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event03: Start time | 0x0805 => 8:05                                                                |
| 410                    | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event03: Stop time  | 0x0805 => 8:05                                                                |
| 411                    | int    | R/W    | 0..100     | 0       | Event03: Level      |                                                                               |
| 412                    | bin    | R/W    | -          | 0       | Event04: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 413                    | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event04: Start time | 0x0805 => 8:05                                                                |
| 414                    | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event04: Stop time  | 0x0805 => 8:05                                                                |
| 415                    | int    | R/W    | 0..100     | 0       | Event04: Level      |                                                                               |
| 416                    | bin    | R/W    | -          | 0       | Event05: Days       | b6-Sun, b5-Sat, b4-Fri, b3-Thu, b2-Wed, b1-Tue, b0-Mon (1-Select, 0-Deselect) |
| 417                    | int8x2 | R/W    | 0:00-23:59 | 0:00    | Event05: Start time | 0x0805 => 8:05                                                                |
| 418                    | int8x2 | R/W    | 0:00-24:00 | 0:00    | Event05: Stop time  | 0x0805 => 8:05                                                                |
| 419                    | int    | R/W    | 0..100     | 0       | Event05: Level      |                                                                               |

| SETTINGS        |        |        |             |              |                      |                                                                                                                          |
|-----------------|--------|--------|-------------|--------------|----------------------|--------------------------------------------------------------------------------------------------------------------------|
| Modbus register | Data   |        |             |              | Description          | Data values                                                                                                              |
|                 | Type   | Access | Range       | Default      |                      |                                                                                                                          |
| 450             | int8x2 | R/W    | 0:00-23:59  | 0:00         | Time                 | 0x0805 => 8:05                                                                                                           |
| 451             | int    | R/W    | 0-59        | 0            | Seconds              |                                                                                                                          |
| 452             | int    | R      | 1-7         | 7            | Day of week          | 1-Mon, 2-Tue, 3-Wed, 4-Thu, 5-Fri, 6-Sat, 7-Sun                                                                          |
| 453             | int8x2 | R/W    | 01.01-12.31 | 01.01        | Date                 | 0x020C => Feb12                                                                                                          |
| 454             | int    | R/W    | 2010-2250   | 2012         | Year                 |                                                                                                                          |
| 455             | int    | R/W    | 0-3         | 0            | Language             | 0-English, 1-Lithuanian, 2-Russian, 3-Polish                                                                             |
| 456             | int    | R/W    | 1-247       | 1            | Modbus address       |                                                                                                                          |
| 457-458         | int32  | R/W    |             | 192.168.0.50 | IP address           |                                                                                                                          |
| 459             | int    | R/W    | 0-3         | 0            | Flow units           | 0-m3/h, 1-l/s, 2-m3/s, 3-Pa                                                                                              |
| 460-467         | int8x2 | R      | -           |              | AHU S/N              |                                                                                                                          |
| 468-479         | int8x2 | R      |             |              | AHU name             |                                                                                                                          |
| 480-481         | int8x2 | R/W    |             |              | IP mask              | With auto correction                                                                                                     |
| 482             | int    | R/W    | -           | 19200 8E1    | RS-485               | Speed (b4..b3): 0 – 9600, 1 – 19200, 2 – 38400, 3 – 57600; parity (b1): 0 – none, 1 – even; stop bits (b0): 0 – 1, 1 – 2 |
| 483             | char   | R/W    | 0..1        | 0            | Daylight saving time | 0-Disable, 1-Enable                                                                                                      |
| 485             | short  | R/W    | 0..65535    | 47809        | BACnet port          |                                                                                                                          |
| 486-487         | int32  | R/W    | 0..4194303  | 20087        | BACnet ID            |                                                                                                                          |

| FUNCTIONS       |      |        |           |         |                                           |                                                           |
|-----------------|------|--------|-----------|---------|-------------------------------------------|-----------------------------------------------------------|
| Modbus register | Data |        |           |         | Description                               | Data values                                               |
|                 | Type | Access | Range     | Default |                                           |                                                           |
| 501             | int  | R/W    | 200..1800 | 1000    | Air quality control: Setpoint 1           | 200..1800ppm, 10..90%, 10..90%RH, 5..45C                  |
| 502             | int  | R/W    | 1..5      | 1       | Air quality control: Mode 1               | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 503             | int  | R/W    | 200..1800 | 1000    | Air quality control: Setpoint 2           | 200..1800ppm, 10..90%, 10..90%RH, 5..45C                  |
| 504             | int  | R/W    | 1..5      | 1       | Air quality control: Mode 1               | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 505             | int  | R/W    | 0..1      | 0       | Outdoor comp. ventilation: Enable/Disable | 0-Disable, 1-Enable                                       |

| FUNCTIONS       |      |        |           |         |                                               |                                                                                 |
|-----------------|------|--------|-----------|---------|-----------------------------------------------|---------------------------------------------------------------------------------|
| Modbus register | Data |        |           |         | Description                                   | Data values                                                                     |
|                 | Type | Access | Range     | Default |                                               |                                                                                 |
| 506             | int  | R/W    | -400..500 | -400    | Outdoor comp. ventilation: Winter comp. stop  | -150 => -15.0C                                                                  |
| 507             | int  | R/W    | -400..500 | 0       | Outdoor comp. ventilation: Winter comp. start | -150 => -15.0C                                                                  |
| 508             | int  | R/W    | -400..500 | 200     | Outdoor comp. ventilation: Summer comp. start | 250 => 25.0C                                                                    |
| 509             | int  | R/W    | -400..500 | 500     | Outdoor comp. ventilation: Summer comp. stop  | 250 => 25.0C                                                                    |
| 510             | int  | R/W    | 0..1      | 0       | Min. temperature control: Enable/ Disable     | 0-Disable, 1-Enable                                                             |
| 511             | int  | R/W    | -400..500 | 150     | Min. temperature control: Setpoint            | -150 => -15.0C                                                                  |
| 512             | int  | R/W    | 0..1      | 1       | Override function: Enable/ Disable            | 0-Disable, 1-Enable                                                             |
| 513             | int  | R/W    | 0..2      | 0       | Override function: Override type              | 0-All time, 1-If on, 2-If off                                                   |
| 514             | int  | R/W    | 0..6      | 2       | Override function: Mode                       | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special, 6-Program |
| 515             | int  | R/W    | 0..1      | 0       | Summer night cooling: Enable/ Disable         | 0-Disable, 1-Enable                                                             |
| 516             | int  | R/W    | 100..500  | 250     | Summer night cooling: Start temperature       | 250 => 25.0C                                                                    |
| 517             | int  | R/W    | 0..1      | 0       | Operation on demand: Enable/ Disable          | 0-Disable, 1-Enable                                                             |
| 518             | int  | R/W    | 200..1800 | 150     | Operation on demand: Setpoint                 | 200..1800ppm, 10..90%, 10..90%RH, 5..45C                                        |
| 519             | int  | R/W    | 0..1      | 0       | Recirculation control: Enable/ Disable        | 0-Disable, 1-Enable                                                             |
| 520             | int  | R/W    | 200..1800 | 600     | Recirculation control: Setpoint               | 200..1800ppm, 10..90%, 10..90%RH, 5..45C                                        |

| FUNCTIONS       |      |        |           |         |                                                   |                                                           |
|-----------------|------|--------|-----------|---------|---------------------------------------------------|-----------------------------------------------------------|
| Modbus register | Data |        |           |         | Description                                       | Data values                                               |
|                 | Type | Access | Range     | Default |                                                   |                                                           |
| 521             | int  | R/W    | 0..80     | 30      | Recirculation control: Min. fresh air             |                                                           |
| 522             | int  | R/W    | -400..500 | -400    | Recirculation control: Winter recirculation end   | -150 => -15.0C                                            |
| 523             | int  | R/W    | -400..500 | 0       | Recirculation control: Winter recirculation start | -150 => -15.0C                                            |
| 524             | int  | R/W    | -400..500 | 200     | Recirculation control: Summer recirculation start | 250 => 25.0C                                              |
| 525             | int  | R/W    | -400..500 | 500     | Recirculation control: Summer recirculation end   | 250 => 25.0C                                              |
| 526             | int  | R/W    | 0..100    | 0       | Recirculation control: Default recirculation      |                                                           |
| 527             | int  | R/W    | 0..100    | 60      | Recirculation control: Activated recirculation    |                                                           |
| 528             | int  | R/W    | 0..1      | 0       | Humidity control: Enable/Disable                  | 0-Disable, 1-Enable                                       |
| 529             | int  | R/W    | 10..90    | 1000    | Humidity control: Setpoint 1                      | 10..90%RH                                                 |
| 530             | int  | R/W    | 1..5      | 1       | Humidity control: Mode 1                          | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 531             | int  | R/W    | 10..90    | 1000    | Humidity control: Setpoint 2                      | 10..90%RH                                                 |
| 532             | int  | R/W    | 1..5      | 2       | Humidity control: Mode 2                          | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 533             | int  | R/W    | 1..5      | 1       | Recirculation control: Mode 1                     | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 534             | int  | R/W    | 200..1800 | 900     | Recirculation control: Setpoint 2                 | 200..1800ppm, 10..90%, 10..90%RH, 5..45C                  |
| 535             | int  | R/W    | 1..5      | 2       | Recirculation control: Mode 2                     | 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special |
| 536             | int  | R/W    | 0..100    | 20      | Recirculation control: Min. fresh air 2           |                                                           |
| 537             | int  | R/W    | 150..500  | 200     | Summer night cooling: Stop temperature            | 200 => 20.0C                                              |

| FUNCTIONS       |      |        |            |         |                                     |                                                                                                                                                                                     |
|-----------------|------|--------|------------|---------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Modbus register | Data |        |            |         | Description                         | Data values                                                                                                                                                                         |
|                 | Type | Access | Range      | Default |                                     |                                                                                                                                                                                     |
| 538             | bin  | R/W    | 0..1       | 0       | Inspection lighting: Enable/Disable |                                                                                                                                                                                     |
| 539             | bin  | R/W    | 0..1       | 0       | Additional zone 1: Enable/Disable   |                                                                                                                                                                                     |
| 540             | int  | R/W    | -400..400  | 210     | Additional zone 1: Setpoint         | 200 => 20,0C                                                                                                                                                                        |
| 541             | bin  | R/W    | 0..1       | 0       | Additional zone 2: Enable/Disable   |                                                                                                                                                                                     |
| 542             | int  | R/W    | -400..400  | 210     | Additional zone 2: Setpoint         | 200 => 20,0C                                                                                                                                                                        |
| 543             | int  | R/W    | -500..1200 | -32768  | External room temperature sensor    | 200 => 20.0C. Overrides extract flow temperature sensor for temperature control only when written value is in range                                                                 |
| 544             | int  | R/W    | -1..2      | 0       | Digital input IN4 override          | Overrides digital input IN4 for combined heating & cooling coil control. (-1 – function not available or disabled, 0 – heating (winter mode), 1 – cooling (summer mode), 2 – error) |
| 545             | int  | R/W    | 0..4       | 0       | Air quality sensor type             | 0 – CO2, 1 – VOCq, 2 – VOCp, 3 – RH, 4 – temperature                                                                                                                                |
| 546             | int  | R/W    | 0..2       | -       | CF heat exchanger calibration       | 0-No calibration, 1- Calibrated, 2-Calibrating. Write 1 to start calibration                                                                                                        |
| 547             | int  | R/W    | 0..2       | -       | HUM mode                            | 0-Supply, 1-Indoor+Supply, 2-Indoor                                                                                                                                                 |
| 548             | int  | R/W    | 0..1       | 0       | Humidity control: Type              | 0 - Relative humidity, 1 - Absolute humidity                                                                                                                                        |
| 549             | int  | R/W    | 0..1       | 0       | Humidity control: Units             | Relative humidity: 0 - %RH. Absolute humidity: 0 - g/m³, 1 - g/kg.                                                                                                                  |
| 550             | int  | R/W    | 20..100    | 0       | OCV Minimum airflow                 | %                                                                                                                                                                                   |

| ALARMS          |        |        |             |         |                              |                                                                |
|-----------------|--------|--------|-------------|---------|------------------------------|----------------------------------------------------------------|
| Modbus register | Data   |        |             |         | Description                  | Data values                                                    |
|                 | Type   | Access | Range       | Default |                              |                                                                |
| 1000            | int    | R/W    | 0..10       | -       | Active alarms count          | Writing 0x99C5 - Active alarms reset and restore previous mode |
| 1001            | hex    | R      |             | -       | Active alarm 1 code (newest) |                                                                |
| 1002            | hex    | R      |             | -       | Active alarm 2 code          |                                                                |
| 1003            | hex    | R      |             | -       | Active alarm 3 code          |                                                                |
| 1004            | hex    | R      |             | -       | Active alarm 4 code          |                                                                |
| 1005            | hex    | R      |             | -       | Active alarm 5 code          |                                                                |
| 1006            | hex    | R      |             | -       | Active alarm 6 code          |                                                                |
| 1007            | hex    | R      |             | -       | Active alarm 7 code          |                                                                |
| 1008            | hex    | R      |             | -       | Active alarm 8 code          |                                                                |
| 1009            | hex    | R      |             | -       | Active alarm 9 code          |                                                                |
| 1010            | hex    | R      |             | -       | Active alarm 10 code         |                                                                |
| 1100            | int    | R      | 0..50       | -       | Alarm history count          |                                                                |
| 1101            | int    | R      | 2010..2250  | -       | Alarm1(newest) year          |                                                                |
| 1102            | int8x2 | R      | 01.01-12.31 | -       | Alarm1(newest) month-day     | 0x020C => Feb12                                                |
| 1103            | int8x2 | R      | 0:00-23:59  | -       | Alarm1(newest) time          | 0x0805 => 8:05                                                 |
| 1104            | int    | R      | 0..59       | -       | Alarm1(newest) seconds       |                                                                |
| 1105            | hex    | R      |             | -       | Alarm1(newest) code          | 4B => 0x0104                                                   |
| .....           | .....  | .....  | .....       | .....   | .....                        | .....                                                          |
| 1346            | int    | R      | 2010..2250  | -       | Alarm50 year                 |                                                                |
| 1347            | int8x2 | R      | 01.01-12.31 | -       | Alarm50 month-day            | 0x020C => Feb12                                                |
| 1348            | int8x2 | R      | 0:00-23:59  | -       | Alarm50 time                 | 0x0805 => 8:05                                                 |
| 1349            | int    | R      | 0..59       | -       | Alarm50 seconds              |                                                                |
| 1350            | hex    | R      |             | -       | Alarm50 code                 | 4B => 0x0104                                                   |

| MONITORING DATA |      |        |            |         |                                   |                                                                                   |
|-----------------|------|--------|------------|---------|-----------------------------------|-----------------------------------------------------------------------------------|
| Modbus register | Data |        |            |         | Description                       | Data values                                                                       |
|                 | Type | Access | Range      | Default |                                   |                                                                                   |
| 2000            | int  | R      | 0-2        | -       | C5 Start/Stop current status      | 0-Stop, 1-Enabled but fans are stopped, 2-Running                                 |
| 2001            | int  | R      | 0-5        | -       | Current mode                      | 0-Standby, 1-Comfort1, 2-Comfort2, 3-Economy1, 4-Economy2, 5-Special              |
| 2002-2003       | int  | R      | -          | -       | Current supply flow               | 3500 => 3500 m3/h, 3.500 m3/s, 3500 l/s                                           |
| 2004-2005       | int  | R      | -          | -       | Current exhaust flow              | 3500 => 3500 m3/h, 3.500 m3/s, 3500 l/s                                           |
| 2006            | int  | R      | -500..1200 | -       | Current supply temp., C           | 250 => 25.0C                                                                      |
| 2007            | int  | R      | -500..1200 | -       | Current extract temp., C          | 250 => 25.0C                                                                      |
| 2008            | int  | R      | -500..1200 | -       | Current outdoor temp., C          | 250 => 25.0C                                                                      |
| 2009            | int  | R      | -500..1200 | -       | Current exhaust temp., C          | 250 => 25.0C                                                                      |
| 2010            | int  | R      | -500..1200 | -       | Current return water temp., C     | 250 => 25.0C                                                                      |
| 2011            | int  | R      | 0..1000    | -       | Supply air pressure               | 250 => 250 Pa                                                                     |
| 2012            | int  | R      | 0..1000    | -       | Extract air pressure              | 250 => 250 Pa                                                                     |
| 2013            | int  | R      | 0..4       | -       | Air quality sensor type           | 0-CO2, 1-VOCq, 2-VOCp, 3-RH, 4-TMP                                                |
| 2014            | int  | R      | 0..2000    | -       | Current air quality level         | CO2: 0..2000ppm, VOC: 0..1000(0..100%), RH: 0..1000(0..100%), TMP: 0..500(0..50C) |
| 2015            | int  | R      | 0..1000    | -       | Current supply air humidity       | 157 => 15.7%                                                                      |
| 2016            | int  | R      | 0..1000    | -       | Water heater level                |                                                                                   |
| 2017            | int  | R      | 0..1000    | -       | Water cooler level                |                                                                                   |
| 2018            | int  | R      | 0..1000    | -       | Humidity control level            |                                                                                   |
| 2019            | int  | R      | 0..1000    | -       | Heat exchanger level              |                                                                                   |
| 2020            | int  | R      | 0..1000    | -       | Recirculation level               |                                                                                   |
| 2021            | int  | R      | 0..1000    | -       | Supply fan level                  |                                                                                   |
| 2022            | int  | R      | 0..1000    | -       | Exhaust fan level                 |                                                                                   |
| 2023            | int  | R      | 0..1000    | -       | Outdoor air damper actuator level |                                                                                   |

| MONITORING DATA |      |        |             |         |                                                  |                                                                   |
|-----------------|------|--------|-------------|---------|--------------------------------------------------|-------------------------------------------------------------------|
| Modbus register | Data |        |             |         | Description                                      | Data values                                                       |
|                 | Type | Access | Range       | Default |                                                  |                                                                   |
| 2024            | int  | R      | 0..1000     | -       | Exhaust air damper actuator level                |                                                                   |
| 2025            | int  | R      | 0..1000     | -       | Electric heater level                            |                                                                   |
| 2026            | int  | R      | -1000..1000 | -       | Heat pump level                                  |                                                                   |
| 2027            | int  | R      | -1000..1000 | -       | DX level                                         |                                                                   |
| 2028            | bin  | R      | 0..1        | -       | OVR input                                        |                                                                   |
| 2029            | bin  | R      | 0..1        | -       | Fire system input                                |                                                                   |
| 2030            | bin  | R      | 0..1        | -       | External stop input                              |                                                                   |
| 2031            | bin  | R      | 0..1        | -       | Control input                                    |                                                                   |
| 2032            | int  | R      | 50..400     | -       | Current temp. setpoint, C                        | 250 => 25.0C                                                      |
| 2033            | int  | R      | 50..400     | -       | Current supply air temp. setpoint, C             | 250 => 25.0C                                                      |
| 2034            | bin  | R      | 0..1        | -       | Water heater pump                                |                                                                   |
| 2035            | bin  | R      | 0..1        | -       | Water cooler pump                                |                                                                   |
| 2036-2037       | int  | R      | -           | -       | Current supply flow setpoint                     | 3500 => 3500 m <sup>3</sup> /h, 3.500 m <sup>3</sup> /s, 3500 l/s |
| 2038-2039       | int  | R      | -           | -       | Current extract flow setpoint                    | 3500 => 3500 m <sup>3</sup> /h, 3.500 m <sup>3</sup> /s, 3500 l/s |
| 2040            | int  | R      | -500..1200  | -       | Current internal supply temp., C                 | 250 => 25.0C                                                      |
| 2041            | int  | R      | -500..1200  | -       | Additional zone 1: current supply temp., C       | 250 => 25.0C                                                      |
| 2042            | int  | R      | -500..1200  | -       | Additional zone 1: current return water temp., C | 250 => 25.0C                                                      |
| 2043            | int  | R      | -500..1200  | -       | Additional zone 2: current supply temp., C       | 250 => 25.0C                                                      |
| 2044            | int  | R      | -500..1200  | -       | Additional zone 2: current return water temp., C | 250 => 25.0C                                                      |
| 2045            | int  | R      | 0..1        | -       | Alarm DOUT                                       | 0-No alarms, 1-Active alarms                                      |
| 2046            | int  | R      | 0..400      | -       | Current supply air absolute humidity             | 250 => 25.0 g/m <sup>3</sup> or g/kg                              |

| MONITORING DATA |      |        |               |         |                                      |                                                                                                                                                                                                                                                    |
|-----------------|------|--------|---------------|---------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Modbus register | Data |        |               |         | Description                          | Data values                                                                                                                                                                                                                                        |
|                 | Type | Access | Range         | Default |                                      |                                                                                                                                                                                                                                                    |
| 2200            | bin  | R      |               | -       | Counters/ efficiencies configuration | b8-Exhaust fan units(0-h, 1-kWh),<br>b7-Supply fan units(0-h, 1-kWh),<br>b6-Exhaust fan counter,<br>b5-Heater counter,<br>b4-Extract filter, b3-Outdoor filter,<br>b2-Exhaust SFP, b1-Supply SFP,<br>b0-HX efficiency (0-Unavailable, 1-Available) |
| 2201            | int  | R      | 0..100, 255   | -       | Heat exchanger thermal efficiency, % | 255 - Unavailable                                                                                                                                                                                                                                  |
| 2202            | int  | R      | 0..100, 255   | -       | Energy saving, %                     | 255 - Unavailable                                                                                                                                                                                                                                  |
| 2203-2204       | int  | R      |               | -       | Heat exchanger recovery, W           | 2500 => 2.5kW<br>(0xFFFFFFFF - Unavailable)                                                                                                                                                                                                        |
| 2205            | int  | R      |               | -       | Supply SFP                           | 125 => 1.25                                                                                                                                                                                                                                        |
| 2206            | int  | R      |               | -       | Exhaust SFP                          | 125 => 1.25                                                                                                                                                                                                                                        |
| 2207            | int  | R      | 0..100        | -       | Outdoor air filter impurity level, % | For AHU with filter pressure sensors                                                                                                                                                                                                               |
| 2208            | int  | R      | 0..100        | -       | Exhaust air filter impurity level, % | For AHU with filter pressure sensors                                                                                                                                                                                                               |
| 2209-2210       | int  | R      | 0..1'000'000  | -       | Air heater operation, hours          |                                                                                                                                                                                                                                                    |
| 2211-2212       | int  | R      | 0..50'000'000 | -       | Supply fan operation, hours or kWh   |                                                                                                                                                                                                                                                    |
| 2213-2214       | int  | R      | 0..50'000'000 | -       | Exhaust fan operation, hours or kWh  |                                                                                                                                                                                                                                                    |
| 2215            | int  | R      | 0..65535      | -       | Current supply fan power, W          |                                                                                                                                                                                                                                                    |
| 2216            | int  | R      | 0..65535      | -       | Current exhaust fan power, W         |                                                                                                                                                                                                                                                    |
| 2217            | bin  | R      |               | -       | Active functions                     | b5-OOD,b4-AQC,b3-SNC,b2-MTC,<br>b1-OVR,b0-OCV                                                                                                                                                                                                      |
| 2218-2219       | int  | R      | 0..1'000'000  | -       | Air cooler operation, hours          |                                                                                                                                                                                                                                                    |
| 2220-2221       | int  | R      | 0..4'000'000  | -       | Heat exchanger operation, kWh        |                                                                                                                                                                                                                                                    |
| 2222-2223       | int  | R      | 0..4'000'000  | -       | Air heater operation, kWh            |                                                                                                                                                                                                                                                    |

| MONITORING DATA ZONE 1 |      |        |             |         |                                          |                                                                                        |
|------------------------|------|--------|-------------|---------|------------------------------------------|----------------------------------------------------------------------------------------|
| Modbus register        | Data |        |             |         | Description                              | Data values                                                                            |
|                        | Type | Access | Range       | Default |                                          |                                                                                        |
| 2300                   | int  | R      | 0..1000     | -       | Electric heater: level                   |                                                                                        |
| 2301                   | int  | R      | 0..1000     | -       | Electric heater: cooler level            |                                                                                        |
| 2302                   | int  | R      | -500..1200  | -       | Electric heater: air temperature         |                                                                                        |
| 2303                   | int  | R      | 0..1000     | -       | Electric heater: air quality             |                                                                                        |
| 2304                   | int  | R      | 0..1200     | -       | Electric heater: heater temperature      | 0..1200 when NTC sensor is selected, 0-1000 when TK70 sensor is selected               |
| 2305                   | bin  | R      | -           | -       | Electric heater: stages active           | b3 – stage4, b2 – stage3, b1 – stage2, b0 – stage1                                     |
| 2306                   | bin  | R      | -           | -       | Electric heater: inputs                  | b2 – TK70, b1 – TK60, b0 – TK100                                                       |
| 2307                   | bin  | R      | -           | -       | Electric heater: alarms                  | b2 – TK60 alarm, b1 – TK70 alarm, b0 – TK100 alarm                                     |
| 2310                   | int  | R      | 0..1000     | -       | Water: heater level                      |                                                                                        |
| 2311                   | int  | R      | 0..1000     | -       | Water: cooler level                      |                                                                                        |
| 2312                   | int  | R      | -500..1200  | -       | Water: air temperature                   |                                                                                        |
| 2313                   | int  | R      | 0..1000     | -       | Water: air quality                       |                                                                                        |
| 2314                   | int  | R      | -300..1200  | -       | Water: return water temperature          |                                                                                        |
| 2315                   | bin  | R      | -           | -       | Water: outputs                           | b1 – cooling pump, b0 – heating pump                                                   |
| 2316                   | bin  | R      | -           | -       | Water: inputs                            | b1 – combined coil is: 1-cooling, 0-heating, b0 – low water temperature,               |
| 2317                   | bin  | R      | -           | -       | Water: alarms                            | b0 – Low water temperature                                                             |
| 2320                   | int  | R      | -1000..1000 | -       | DX level unit: level                     | > 0 – heating, < 0 – cooling, -32768 – forced stop                                     |
| 2321                   | int  | R      | 0..1000     | -       | DX level unit: cooler level              |                                                                                        |
| 2322                   | int  | R      | -500..1200  | -       | DX level unit: air temperature           |                                                                                        |
| 2323                   | int  | R      | 0..1000     | -       | DX level unit: air quality               |                                                                                        |
| 2325                   | bin  | R      | -           | -       | DX level unit: operating & stages active | b4 – reverse: 1-heating, 0-cooling, b3 – stage4, b2 – stage3, b1 – stage2, b0 – stage1 |
| 2326                   | bin  | R      | -           | -       | DX level unit: inputs                    | b0 – external error                                                                    |
| 2327                   | bin  | R      | -           | -       | DX level unit: alarms                    | b0 – external error alarm                                                              |

| MONITORING DATA ZONE 1 |      |        |             |         |                                          |                                                                                                                |
|------------------------|------|--------|-------------|---------|------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Modbus register        | Data |        |             |         | Description                              | Data values                                                                                                    |
|                        | Type | Access | Range       | Default |                                          |                                                                                                                |
| 2328                   | bin  | R      | -           | -       | DX stepping unit: external input         | b0 – external input indication                                                                                 |
| 2330                   | int  | R      | -1000..1000 | -       | DX modulated unit: level/ setpoint/error | Level or temperature setpoint (t → 0..10V) or temperature error signal (0..5..10V), depending on configuration |
| 2331                   | int  | R      | 0..1000     | -       | DX modulated unit: cooler level          |                                                                                                                |
| 2332                   | int  | R      | -500..1200  | -       | DX modulated unit: air temperature       |                                                                                                                |
| 2333                   | int  | R      | 0..1000     | -       | DX modulated unit: air quality           |                                                                                                                |
| 2335                   | bin  | R      | -           | -       | DX modulated unit: control outputs       | b2 – heating, b1 – cooling, b0 – operation                                                                     |
| 2336                   | bin  | R      | -           | -       | DX modulated unit: inputs                | b0 – external error                                                                                            |
| 2337                   | bin  | R      | -           | -       | DX modulated unit: alarms                | b0 – external error alarm                                                                                      |
| 2338                   | bin  | R      | -           | -       | DX modulated unit: external input        | b0 – external input indication                                                                                 |

| MONITORING DATA ZONE 2 |      |        |            |         |                                     |                                                                          |
|------------------------|------|--------|------------|---------|-------------------------------------|--------------------------------------------------------------------------|
| Modbus register        | Data |        |            |         | Description                         | Data values                                                              |
|                        | Type | Access | Range      | Default |                                     |                                                                          |
| 2400                   | int  | R      | 0..1000    | -       | Electric heater: level              |                                                                          |
| 2401                   | int  | R      | 0..1000    | -       | Electric heater: cooler level       |                                                                          |
| 2402                   | int  | R      | -500..1200 | -       | Electric heater: air temperature    |                                                                          |
| 2403                   | int  | R      | 0..1000    | -       | Electric heater: air quality        |                                                                          |
| 2404                   | int  | R      | 0..1200    | -       | Electric heater: heater temperature | 0..1200 when NTC sensor is selected, 0-1000 when TK70 sensor is selected |
| 2405                   | bin  | R      | -          | -       | Electric heater: stages active      | b3 – stage4, b2 – stage3, b1 – stage2, b0 – stage1                       |
| 2406                   | bin  | R      | -          | -       | Electric heater: inputs             | b2 – TK70, b1 – TK60, b0 – TK100                                         |
| 2407                   | bin  | R      | -          | -       | Electric heater: alarms             | b2 – TK60 alarm, b1 – TK70 alarm, b0 – TK100 alarm                       |
| 2410                   | int  | R      | 0..1000    | -       | Water: heater level                 |                                                                          |
| 2411                   | int  | R      | 0..1000    | -       | Water: cooler level                 |                                                                          |

| MONITORING DATA ZONE 2 |      |        |             |         |                                          |                                                                                                                |
|------------------------|------|--------|-------------|---------|------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Modbus register        | Data |        |             |         | Description                              | Data values                                                                                                    |
|                        | Type | Access | Range       | Default |                                          |                                                                                                                |
| 2412                   | int  | R      | -500..1200  | -       | Water: air temperature                   |                                                                                                                |
| 2413                   | int  | R      | 0..1000     | -       | Water: air quality                       |                                                                                                                |
| 2414                   | int  | R      | -300..1200  | -       | Water: return water temperature          |                                                                                                                |
| 2415                   | bin  | R      | -           | -       | Water: outputs                           | b1 – cooling pump, b0 – heating pump                                                                           |
| 2416                   | bin  | R      | -           | -       | Water: inputs                            | b1 – combined coil is: 1-cooling, 0-heating, b0 – low water temperature,                                       |
| 2417                   | bin  | R      | -           | -       | Water: alarms                            | b0 – Low water temperature                                                                                     |
| 2420                   | int  | R      | -1000..1000 | -       | DX level unit: level                     | > 0 – heating, < 0 – cooling, -32768 – forced stop                                                             |
| 2421                   | int  | R      | 0..1000     | -       | DX level unit: cooler level              |                                                                                                                |
| 2422                   | int  | R      | -500..1200  | -       | DX level unit: air temperature           |                                                                                                                |
| 2423                   | int  | R      | 0..1000     | -       | DX level unit: air quality               |                                                                                                                |
| 2425                   | bin  | R      | -           | -       | DX level unit: operating & stages active | b4 – reverse: 1-heating, 0-cooling, b3 – stage4, b2 – stage3, b1 – stage2, b0 – stage1                         |
| 2426                   | bin  | R      | -           | -       | DX level unit: inputs                    | b0 – external error                                                                                            |
| 2427                   | bin  | R      | -           | -       | DX level unit: alarms                    | b0 – external error alarm                                                                                      |
| 2428                   | bin  | R      | -           | -       | DX stepping unit: external input         | b0 – external input indication                                                                                 |
| 2430                   | int  | R      | -1000..1000 | -       | DX modulated unit: level/ setpoint/error | Level or temperature setpoint (t → 0..10V) or temperature error signal (0..5..10V), depending on configuration |
| 2431                   | int  | R      | 0..1000     | -       | DX modulated unit: cooler level          |                                                                                                                |
| 2432                   | int  | R      | -500..1200  | -       | DX modulated unit: air temperature       |                                                                                                                |
| 2433                   | int  | R      | 0..1000     | -       | DX modulated unit: air quality           |                                                                                                                |
| 2435                   | bin  | R      | -           | -       | DX modulated unit: control outputs       | b2 – heating, b1 – cooling, b0 – operation                                                                     |
| 2436                   | bin  | R      | -           | -       | DX modulated unit: inputs                | b0 – external error                                                                                            |
| 2437                   | bin  | R      | -           | -       | DX modulated unit: alarms                | b0 – external error alarm                                                                                      |

| MONITORING DATA ZONE 2 |      |        |       |         |                                   |                                |
|------------------------|------|--------|-------|---------|-----------------------------------|--------------------------------|
| Modbus register        | Data |        |       |         | Description                       | Data values                    |
|                        | Type | Access | Range | Default |                                   |                                |
| 2438                   | bin  | R      | -     | -       | DX modulated unit: external input | b0 – external input indication |

| SERVICE         |      |        |         |         |                               |                                                                                                                                                                                   |
|-----------------|------|--------|---------|---------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Modbus register | Data |        |         |         | Description                   | Data values                                                                                                                                                                       |
|                 | Type | Access | Range   | Default |                               |                                                                                                                                                                                   |
| 900             | bin  | R/W    |         | 0       | Modes reset to default        | b4-Special, b3-Economy2, b2-Economy1, b1-Comfort2, b0-Comfort1                                                                                                                    |
| 901             | bin  | R/W    |         | 0       | Functions reset to default    | b9-ZN2, b8-ZN1, b7-HUM, b6-REC, b5-OOD, b4-SNC, b3-OVR, b2-MTC, b1-OCV, b0-AQC                                                                                                    |
| 902             | bin  | R/W    |         | 0       | Settings reset to default     | b3-485_Config, b2-IP+Mask, b1-Flow_mode, b0-Temp_mode                                                                                                                             |
| 2852            | bin  | R      | 0..1    | -       | Digital input: Outdoor filter | For AHU without filter pressure sensors. 0-Clean, 1-Dirty                                                                                                                         |
| 2853            | bin  | R      | 0..1    | -       | Digital input: Extract filter | For AHU without filter pressure sensors. 0-Clean, 1-Dirty                                                                                                                         |
| 18000           | int  | R/W    | 0       | -       | User password reset           | Write 0x99C5 to reset                                                                                                                                                             |
| 18001           | int  | R/W    | 0       | -       | User settings reset           | Write 0x99C5 to reset                                                                                                                                                             |
| 18002           | int  | R/W    | 0       | -       | Clean air filters calibration | Write 0x99C5 to start calibration                                                                                                                                                 |
| 18003           | int  | R/W    | 0       | -       | Counters reset                | Write 0x??C5 to reset, ?? => b2-Exhaust fan, b1-Supply fan, b0-Air heater (1 – Reset). 0X01C5 => Reset air heater counter only, 0x07C5 => Reset both fans and air heater counters |
| 18004           | int  | R      | 0..9999 | -       | Controller firmware version   |                                                                                                                                                                                   |
| 18005           | int  | R/W    | 0..1000 | 0       | Service time counter          | 0..100.0%, Write 0x99C5 to reset                                                                                                                                                  |

### Alarm codes (registers 1000-1350)

| Code |     | Text | Alarm text                |
|------|-----|------|---------------------------|
| Hex  | Dec |      |                           |
| 1    | 1   | 1B   | Low supply air flow       |
| 2    | 2   | 2B   | Low extract air flow      |
| 3    | 3   | 3B   | VAV calibration fail      |
| 4    | 4   | 4B   | Change outdoor air filter |
| 5    | 5   | 5B   | Change extract air filter |
| 6    | 6   | 6B   | Electric heater off       |
| 7    | 7   | 7B   |                           |
| 8    | 8   | 8B   |                           |
| 9    | 9   | 9B   |                           |
| A    | 10  | 10B  |                           |
| B    | 11  | 11B  |                           |

| Code |     | Text | Alarm text                                   |
|------|-----|------|----------------------------------------------|
| Hex  | Dec |      |                                              |
| C    | 12  | 12B  | High pressure on compressor                  |
| D    | 13  | 13B  | Low pressure on compressor                   |
| E    | 14  | 14B  | Service time                                 |
| F    | 15  | 15B  | Evaporator icing                             |
| 10   | 16  | 16B  | Heat pump malfunction                        |
| 11   | 17  | 17B  |                                              |
| 12   | 18  | 18B  |                                              |
| 13   | 19  | 19B  | Compressor off                               |
| 14   | 20  | 20B  |                                              |
| 15   | 21  | 21B  | High pressure on compressor                  |
| 16   | 22  | 22B  | Low pressure on compressor                   |
| 17   | 23  | 23B  | Heat pump malfunction                        |
| 18   | 24  | 24B  |                                              |
| 19   | 25  | 25B  |                                              |
| 1A   | 26  | 26B  |                                              |
| 1B   | 27  | 27B  | Heat pump malfunction                        |
| 1C   | 28  | 28B  |                                              |
| 1D   | 29  | 29B  |                                              |
| 1E   | 30  | 30B  |                                              |
| 1F   | 31  | 31B  |                                              |
| 20   | 32  | 32B  |                                              |
| 21   | 33  | 33B  |                                              |
| 22   | 34  | 34B  |                                              |
| 23   | 35  | 35B  |                                              |
| 24   | 36  | 36B  |                                              |
| 25   | 37  | 37B  |                                              |
| 26   | 38  | 38B  |                                              |
| 27   | 39  | 39B  |                                              |
| 28   | 40  | 40B  |                                              |
| 29   | 41  | 41B  |                                              |
| 2A   | 42  | 42B  |                                              |
| 2B   | 43  | 43B  |                                              |
| 2C   | 44  | 44B  | Heat pump malfunction or Communication error |

| Code |     | Text | Alarm text                                   |
|------|-----|------|----------------------------------------------|
| Hex  | Dec |      |                                              |
| 2D   | 45  | 45B  | Heat pump malfunction                        |
| 2E   | 46  | 46B  |                                              |
| 2F   | 47  | 47B  |                                              |
| 30   | 48  | 48B  |                                              |
| 31   | 49  | 49B  |                                              |
| 32   | 50  | 50B  |                                              |
| 33   | 51  | 51B  |                                              |
| 34   | 52  | 52B  |                                              |
| 35   | 53  | 53B  |                                              |
| 36   | 54  | 54B  |                                              |
| 37   | 55  | 55B  |                                              |
| 38   | 56  | 56B  |                                              |
| 39   | 57  | 57B  |                                              |
| 3A   | 58  | 58B  |                                              |
| 3B   | 59  | 59B  | Heat pump malfunction or Communication error |
| 3C   | 60  | 60B  | Heat pump malfunction                        |
| 3D   | 61  | 61B  |                                              |
| 3E   | 62  | 62B  |                                              |
| 3F   | 63  | 63B  |                                              |
| 40   | 64  | 64B  |                                              |
| 41   | 65  | 65B  |                                              |
| 42   | 66  | 66B  |                                              |
| 43   | 67  | 67B  |                                              |
| 44   | 68  | 68B  |                                              |
| 45   | 69  | 69B  |                                              |
| 46   | 70  | 70B  |                                              |
| 47   | 71  | 71B  |                                              |
| 48   | 72  | 72B  |                                              |
| 49   | 73  | 73B  |                                              |
| 4A   | 74  | 74B  | Heat pump malfunction                        |
| 4B   | 75  | 75B  |                                              |
| 4C   | 76  | 76B  |                                              |
| 4D   | 77  | 77B  |                                              |
| 4E   | 78  | 78B  |                                              |
| 4F   | 79  | 79B  | Heat pump malfunction                        |
| 50   | 80  | 80B  |                                              |
| 51   | 81  | 81B  |                                              |
| 52   | 82  | 82B  | Heat pump malfunction or Communication error |
| 53   | 83  | 83B  |                                              |

| Code |     | Text | Alarm text                        |
|------|-----|------|-----------------------------------|
| Hex  | Dec |      |                                   |
| 54   | 84  | 84B  | Heat pump malfunction             |
| 55   | 85  | 85B  |                                   |
| 56   | 86  | 86B  |                                   |
| 57   | 87  | 87B  |                                   |
| 58   | 88  | 88B  |                                   |
| 59   | 89  | 89B  |                                   |
| 5A   | 90  | 90B  |                                   |
| 5B   | 91  | 91B  |                                   |
| 5C   | 92  | 92B  |                                   |
| 5D   | 93  | 93B  |                                   |
| 5E   | 94  | 94B  |                                   |
| 5F   | 95  | 95B  | Low heat exchanger efficiency     |
| 60   | 96  | 96B  | Communication error               |
| 61   | 97  | 97B  |                                   |
| 62   | 98  | 98B  |                                   |
| 63   | 99  | 99B  | Communication error               |
| 64   | 100 | 100B | Heat pump malfunction             |
| 65   | 101 | 101B |                                   |
| 66   | 102 | 102B |                                   |
| 67   | 103 | 103B |                                   |
| 68   | 104 | 104B |                                   |
| 69   | 105 | 105B |                                   |
| 6A   | 106 | 106B |                                   |
| 6B   | 107 | 107B |                                   |
| 6C   | 108 | 108B |                                   |
| 6D   | 109 | 109B |                                   |
| 6E   | 110 | 110B |                                   |
| 6F   | 111 | 111B |                                   |
| 70   | 112 | 112B | Water pump/coil alarm             |
| 71   | 113 | 113B | CF or HP exchanger not calibrated |
| 72   | 114 | 114B | CF or HP exchanger not calibrated |
| 73   | 115 | 115B | High pressure on compressor       |
| 74   | 116 | 116B | Low pressure on compressor        |
| 75   | 117 | 117B | Heat pump malfunction             |
| 76   | 118 | 118B |                                   |
| 77   | 119 | 119B |                                   |
| 78   | 120 | 120B |                                   |
| 79   | 121 | 121B |                                   |
| 7A   | 122 | 122B |                                   |
| 7E   | 126 | 126B | Unknown alarm                     |
| 7F   | 127 | 127B | Service mode                      |
|      |     |      |                                   |

| Code |     | Text | Alarm text                           |
|------|-----|------|--------------------------------------|
| Hex  | Dec |      |                                      |
| 80   | 128 | 1A   | Supply air temp. Sensor failure      |
| 81   | 129 | 2A   |                                      |
| 82   | 130 | 3A   | Extract air temp. Sensor failure     |
| 83   | 131 | 4A   |                                      |
| 84   | 132 | 5A   | Outdoor air temp. Sensor failure     |
| 85   | 133 | 6A   |                                      |
| 86   | 134 | 7A   | Exhaust air temp. Sensor failure     |
| 87   | 135 | 8A   |                                      |
| 88   | 136 | 9A   | Water temp. sensor failure           |
| 89   | 137 | 10A  |                                      |
| 8A   | 138 | 11A  | Return water temp. low               |
| 8B   | 139 | 12A  | Internal fire alarm                  |
| 8C   | 140 | 13A  | External fire alarm                  |
| 8D   | 141 | 14A  | External stop                        |
| 8E   | 142 | 15A  | Heat exchanger failure               |
| 8F   | 143 | 16A  | Heat exchanger icing                 |
| 90   | 144 | 17A  | Low supply air temperature           |
| 91   | 145 | 18A  | High supply air temperature          |
| 92   | 146 | 19A  | Low supply air flow                  |
| 93   | 147 | 20A  | Low extract air flow                 |
| 94   | 148 | 21A  | Electric heater overheat             |
| 95   | 149 | 22A  |                                      |
| 96   | 150 | 23A  |                                      |
| 97   | 151 | 24A  | Evaporator air temp. Sensor failure  |
| 98   | 152 | 25A  |                                      |
| 99   | 153 | 26A  | Evaporator coil temp. Sensor failure |
| 9A   | 154 | 27A  |                                      |
| 9B   | 155 | 28A  | Compressor failure                   |
| 9C   | 156 | 29A  |                                      |
| 9D   | 157 | 30A  |                                      |
| 9E   | 158 | 31A  | Supply air temp. Sensor failure      |
| 9F   | 159 | 32A  |                                      |
| A0   | 160 | 33A  |                                      |
| A1   | 161 | 34A  | Water temp. sensor failure           |
| A2   | 162 | 35A  |                                      |
| A3   | 163 | 36A  |                                      |
| A4   | 164 | 37A  |                                      |
| A5   | 165 | 38A  | Return water temp. Low               |
| A6   | 166 | 39A  |                                      |
| A7   | 167 | 40A  | Supply air temp. Sensor failure      |
| A8   | 168 | 41A  |                                      |
| A9   | 169 | 42A  |                                      |

| Code |     | Text | Alarm text                  |
|------|-----|------|-----------------------------|
| Hex  | Dec |      |                             |
| AA   | 170 | 43A  | External stop               |
| AB   | 171 | 44A  |                             |
| AC   | 172 | 45A  | Water pump/coil alarm       |
| AD   | 173 | 46A  | CF exchanger not calibrated |
| D2   | 210 | 83A  | Controller failure          |
| D3   | 211 | 84A  | Communication error         |
| D4   | 212 | 85A  |                             |
| D5   | 213 | 86A  |                             |
| D6   | 214 | 87A  |                             |
| D7   | 215 | 88A  |                             |
| D8   | 216 | 89A  |                             |
| D9   | 217 | 90A  | Service mode                |
| DA   | 218 | 91A  | Controller failure          |
| DB   | 219 | 92A  |                             |
| DC   | 220 | 93A  |                             |
| DD   | 221 | 94A  |                             |
| DE   | 222 | 95A  |                             |
| DF   | 223 | 96A  |                             |
| E0   | 224 | 97A  |                             |
| E1   | 225 | 98A  |                             |
| E2   | 226 | 99A  | Supply fan drive failure    |
| E3   | 227 | 100A | Supply fan drive overload   |
| E4   | 228 | 101A | Supply fan motor failure    |
| E5   | 229 | 102A | Supply fan motor overload   |
| E6   | 230 | 103A |                             |
| E7   | 231 | 104A | Exhaust fan drive failure   |
| E8   | 232 | 105A | Exhaust fan drive overload  |
| E9   | 233 | 106A | Exhaust fan motor failure   |
| EA   | 234 | 107A | Exhaust fan motor overload  |
| EB   | 235 | 108A |                             |
| EC   | 236 | 109A | Rotor drive failure         |
| ED   | 237 | 110A | Rotor drive overload        |
| EE   | 238 | 111A | Rotor motor failure         |
| EF   | 239 | 112A | Rotor motor overload        |
| F0   | 240 | 113A |                             |

| Code |     | Text | Alarm text          |
|------|-----|------|---------------------|
| Hex  | Dec |      |                     |
| F1   | 241 | 114A | Communication error |
| F2   | 242 | 115A |                     |
| F3   | 243 | 116A |                     |
| F4   | 244 | 117A |                     |
| F5   | 245 | 118A |                     |
| F6   | 246 | 119A |                     |
| F7   | 247 | 120A |                     |
| F8   | 248 | 121A |                     |
| F9   | 249 | 122A |                     |
| FA   | 250 | 123A |                     |
| FB   | 251 | 124A |                     |
| FC   | 252 | 125A | Controller failure  |
| FD   | 253 | 126A |                     |
| FE   | 254 | 127A |                     |

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|    |                                                                  |                                                                |
|----|------------------------------------------------------------------|----------------------------------------------------------------|
| AT | J. PICHLER Gesellschaft m. b. H.                                 | www.pichlerluft.at                                             |
| BE | Ventilair group<br>ACB Airconditioning                           | www.ventilairgroup.com<br>www.acbairco.be                      |
| CZ | REKUVENT s.r.o.                                                  | www.rekuvent.cz                                                |
| CH | WESCO AG<br>SUDCLIMATAIR SA<br>CLIMAIR GmbH                      | www.wesco.ch<br>www.sudclimatair.ch<br>www.climair.ch          |
| DK | Øland A/S                                                        | www.oeland.dk                                                  |
| EE | BVT Partners                                                     | www.bvtpartners.ee                                             |
| FR | ATIB                                                             | www.atib.fr                                                    |
| HR | Microclima                                                       | www.microclima.hr                                              |
| HU | AIRVENT Légtechnikai Zrt.<br>Gevent Magyarország Kft.<br>Merkapt | www.airvent.hu<br>www.gevent.hu<br>www.merkapt.hu              |
| IE | Lindab                                                           | www.lindab.ie                                                  |
| IR | Fantech Ventilation Ltd                                          | www.fantech.ie                                                 |
| IS | Blikk & Tækniþjónustan ehf<br>Hitataekni ehf                     | www.bogt.is<br>www.hitataekni.is                               |
| IT | ICARIA                                                           | www.icaria.srl                                                 |
| NL | ForClima BV                                                      | www.forclima.nl                                                |
| NO | Ventilution AS<br>Ventistål AS<br>Thermo Control AS              | www.ventilution.no<br>www.ventistal.no<br>www.thermocontrol.no |
| PL | Ventia Sp. z o.o.                                                | www.ventia.pl                                                  |
| SE | Nordisk Ventilator AB                                            | www.nordiskventilator.se                                       |
| SI | Agregat d.o.o                                                    | www.agregat.si                                                 |
| SK | TZB produkt, s.r.o.                                              | www.tzbprodukt.sk                                              |
| UA | TD VECON LLC                                                     | www.vecon.ua                                                   |