Service instruction EN

SAVE Modbus variable list

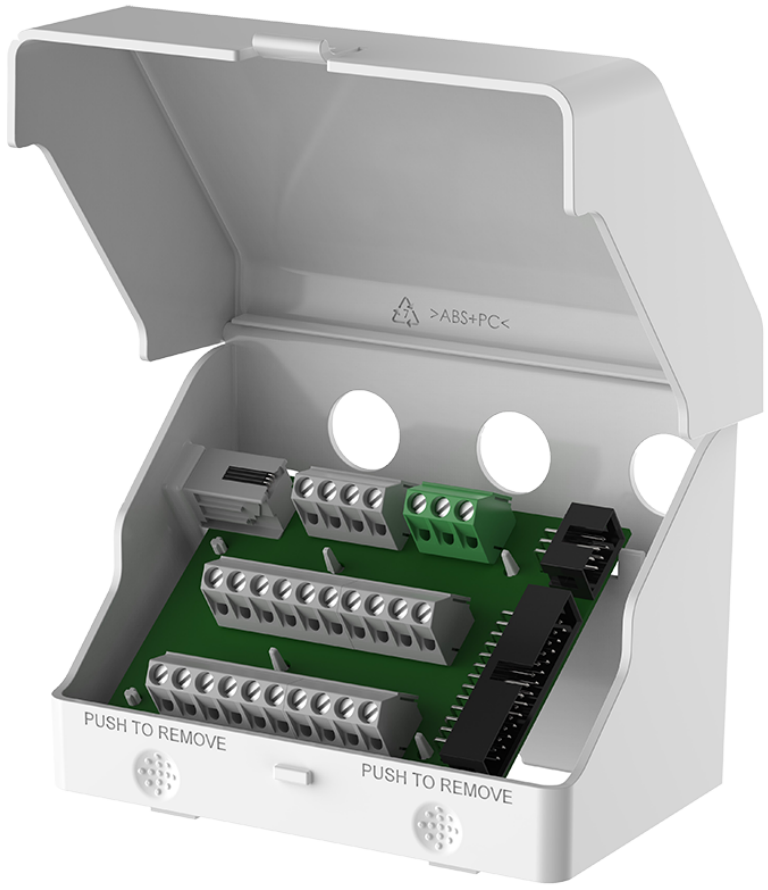


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1 Introduction

Modbus is a widely-used serial communication protocol in industrial automation, designed to transmit data over serial lines such as RS-232 and RS-485, and also over Ethernet (Modbus TCP/IP).

The device that requests the information is called a “master” while devices that give the requested information are called “slaves”. A single master device communicates with multiple slave devices, initiates queries and receives responses.

Modbus is valued for its simplicity and reliability, with a straightforward message structure that includes an address field, function code, data field, and an error check field. Its open protocol nature promotes interoperability between devices from different manufacturers.

1.1 To connect

All SAVE ventilation units have a standard and readily available Modbus/RTU connection on the connection board marked A(+), B(-), GND.

Alternative Modbus/TCP connection can be made over TCP/IP with use Modbus RTU to TCP gateway accessory (item number: 454345).

Table 1 Modbus connection information

Slave address: 1 to 247 (default setting is 1)
Baud Rate: 9600 to 115200 (default setting is 115200)
Parity: None, Even, Odd (default setting is None)
Stop Bits: 1 (fixed value)

Parameters can be changed in the SAVE TOUCH control panel: **Service** ➢ **Communication** ➢ **Modbus**.

1.2 Transmission modes

Input registers (read-only) and Holding registers (read-write) are supported in Modbus protocol.

All registers are 16 bit integers.

Table 2 Register types used

Input Registers	IR	16-bit quantity, analog Input Register provided by an I/O system, read-only, Modbus Function 04
Holding Registers	HR	16-bit quantity, analog output Holding Register can be changed by an application program, read-write, Modbus function 03 / 06 / 16

Table 3 Signal types used

Unsigned integers	I
Signed integers	I*

1.3 Value calculations

To calculate the remaining or passed time:

- Time = (65535 * **TIME_H*) + **TIME_L*

Note:

Example:

REG_USERMODE_REMAINING_TIME_L = 61981

REG_USERMODE_REMAINING_TIME_H = 3

Remaining user mode time = (65535 * 3) + 61981 = 258586 seconds

To calculate the date, timestamp date:

- Time seconds = (65536 * *TIME_H*) + *TIME_L*

  Constant = 760516096
- Days from 1970-01-01 = (Time seconds - Constant) / 86400

  Date (GMT+0) = 1970-01-01 + Days from 1970-01-01

Note:

Example:

**TIME_L* = 28296

**TIME_H* = 37819

Time seconds = (65536 * 37819) + 28296 = 2478534280

Days from 1970-01-01=(2478534280 - 760516096) / 86400 = 19884,47

Date (GMT+0) = 1970-01-01 + 19884,47 = 2024-06-10 11:16:24

To calculate the temperature value:

- If the sensor reading is higher than 60000:
  Value = (*SENSOR_VALUE* - 65536) / 10
- If the sensor reading is lower than 60000:
  Value = *SENSOR_VALUE* / 10

Note:

Example:

REG_SENSOR_OAT = 20

REG_SENSOR_OAT = 20 / 10 = 2 °C

1.4 Limitations

Do not to exceed 200 000 writes to Modbus registers.

When this limit is exceeded:

1. Saved data in memory is no longer reliable and can be corrupted.
2. After SAVE ventilation unit power on the Modbus register values will return to the last reliable data. Factory settings are restored if there is no reliable data on memory.

2 Fans

2.1 Speed adjustment

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_MANUAL_AIRFLOW_LEVEL_SAF	I	HR	1131	0	4	Fans speed for manual mode: 0: Off 2: Low 3: Normal 4: High Value „Off“ only allowed if contents of register 1353 has value of 1. Minimum and Maximum fan speeds are not allowed.
REG_USERMODE_HMI_CHANGE_REQUEST	I	HR	1162	1	7	New desired user mode: 1: Auto 2: Manual 3: Crowded 4: Refresh 5: Fireplace 6: Away 7: Holiday
REG_USERMODE_MODE	I	IR	1161	0	12	Active User mode: 0: Auto 1: Manual 2: Crowded 3: Refresh 4: Fireplace 5: Away 6: Holiday 7: Cooker Hood 8: Vacuum Cleaner 9: Configurable digital input 1 10: Configurable digital input 2 11: Configurable digital input 3 12: Pressure Guard
REG_DEMC_AUTO_MODE_SOURCE	I	IR	1062	0	3	Auto mode typel: 0: External control 1: Demand control 2: Week schedule 3: Configuration fault
REG_USERMODE_REMAINING_TIME_L	I	IR	1111	0	65536	Remaining time for the state Holiday/Away/Fire Place/Refresh/Crowded in seconds.
REG_USERMODE_REMAINING_TIME_H	I	IR	1112	0	65536	Remaining time for the state Holiday/Away/Fire Place/Refresh/Crowded in seconds.
REG_USERMODE_FALLBACK	I	HR	1164	0	1	Used mode in which SAVE unit should operate when user mode delay is expired: 0: Auto 1: Manual

2.2 Registers for external fan control

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_MANUAL_OVERRIDE_F_INPUT_UI_SAFC_MODE	I	HR	12929	0	1	External supply air control allowance: 0 - Not allowed 1- Allowed
REG_MANUAL_OVERRIDE_F_INPUT_UI_EAFC_MODE	I	HR	12930	0	1	External extract air control allowance: 0 - Not allowed 1- Allowed
REG_MANUAL_OVERRIDE_F_INPUT_UI_SAFC_VALUE	I	HR	12979	0	100	Supply fan control value from external device.
REG_MANUAL_OVERRIDE_F_INPUT_UI_EAFC_VALUE	I	HR	12980	0	100	Extract fan control value from external device.
REG_INTERLOCK_EXTERNAL_FAN_CONTROL	I	IR	14308	0	1	External fan control block digital output status: 0 - Unblocked 1 - Blocked

To enable the external fan control over Modbus communication:

1. Go to the menu **Components** ➢ **Control Regulation** ➢ **Fan Control**. Change the airflow type to **External**.
2. Go to the menu **Components** ➢ **Input** ➢ **UNIVERSAL**.
   a. Select any free input and configure it as **Analog Input** ➢ **Supply Air Fan Control (SAFC)**
   b. Select any free input and configure it as **Analog Input** ➢ **Extract Air Fan Control (EAFC)**
3. Change the user mode to **Auto**. To change the user mode use the control panel or mobile app. Alternatively, change the value of Modbus register 1162 to 1.
4. Change the value of Modbus register 12929 and 12930 to 1.
5. Change the supply fan speed value from 0 to 100% with Modbus register 12979.

   Change the extract air fan speed value from 0 to 100% with Modbus register 12980.

Note:

The values of Modbus registers 12929, 12930, 12979, 12980 will change to 0 after power off of the SAVE ventilation unit.

Restore the user required values after each power supply disconnection.

2.3 Fan operation data

2.3.1 Common

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SPEED_FANS_RUNNING	I	IR	1351	0	1	Fans operation status: 0: Fans not running 1: Fans running
REG_OUTPUT_SAF	I	IR	14001	0	100	Supply air fan speed output, %
REG_OUTPUT_EAF	I	IR	14002	0	100	Extract air fan speed output, %
REG_SENSOR_RPM_SAF	I	IR	12401	0	65536	Supply Air Fan RPM indication.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_RPM_EAF	I	IR	12402	0	65536	Extract Air Fan RPM indication.
REG_OUTPUT_OUTDOOR_EXTRACT_ DAMPER	I	IR	14004	0	1	Outdoor/exhaust damper output status: 0 - Closed 1 - Open

2.3.2 VAV and CAV operation

Available if the external or internal flow measurement is installed.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_P_SAF	I	IR	12201	0	65536	Supply air fan pressure, Pa.
REG_SENSOR_P_EAF	I	IR	12202	0	65536	Extract air fan pressure, Pa.
REG_SENSOR_FLOW_SAF	I	IR	12203	0	65536	Supply air fan flow indication, l/s, m3h, cfm(depends on SAVE unit configuration).
REG_SENSOR_FLOW_EAF	I	IR	12204	0	65536	Extract air fan flow indication, l/s, m3h, cfm(depends on SAVE unit configuration).
REG_SENSOR_FLOW_PIGGYBACK_SAF	I	IR	12403	0	65536	Supply air fan flow indication, l/s, m3h, cfm(depends on SAVE unit configuration).
REG_SENSOR_FLOW_PIGGYBACK_EAF	I	IR	12404	0	65536	Extract air fan flow indication, l/s, m3h, cfm(depends on SAVE unit configuration).

2.3.3 Emergency fan stop indication

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_DI_EXTERNAL_STOP	I	IR	12308	0	1	External stop input status 0 - Inactive 1 - Active
REG_SENSOR_DI_FIRE_ALARM	I	IR	12311	0	1	Fire alarm input status 0 - Inactive 1 - Active

2.4 Settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_REGULATION_UNIT	I	HR	1274	0	4	Fan control type: 0: Manual, % 1: Manual, RPM 2: Pressure 3: Flow 4: External
REG_FAN_REGULATION_PBAND	I	HR	1271	1	3000	Fan control P-band value. Applies only if fan is controlled by pressure, flow or RPM.
REG_FAN_REGULATION_ITIME	I	HR	1272	0	240	Fan control I-time value. Applies only if fan is controlled by pressure, flow or RPM.
REG_FAN_MANUAL_STOP_ALLOWED	I	HR	1353	0	1	Allow manual fan stop (also as selection for user modes and Week schedule). 0: Manual stop not allowed 1: Manual stop allowed

2.4.1 Fan speed settings

2.4.1.1 Manual % regulation

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LEVEL_SAF_MIN_PERCENTAGE	I	HR	1401	16	100	Minumum supply air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_EAF_MIN_PERCENTAGE	I	HR	1402	16	100	Minumum extract air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_SAF_LOW_PERCENTAGE	I	HR	1403	16	100	Low supply air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_EAF_LOW_PERCENTAGE	I	HR	1404	16	100	Low extract air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_SAF_NORMAL_PERCENTAGE	I	HR	1405	16	100	Normal supply air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_EAF_NORMAL_PERCENTAGE	I	HR	1406	16	100	Normal extract air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_SAF_HIGH_PERCENTAGE	I	HR	1407	16	100	HIgh supply air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_EAF_HIGH_PERCENTAGE	I	HR	1408	16	100	High extract air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_SAF_MAX_PERCENTAGE	I	HR	1409	16	100	Maximum supply air fan speed setting for percentage control mode, %
REG_FAN_LEVEL_EAF_MAX_PERCENTAGE	I	HR	1410	16	100	Maximum extract air fan speed setting for percentage control mode, %

2.4.1.2 Manual RPM regulation

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LEVEL_SAF_MIN_RPM	I	HR	1411	0	5000	Minumum supply air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_EAF_MIN_RPM	I	HR	1412	0	5000	Minumum extract air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_SAF_LOW_RPM	I	HR	1413	0	5000	Low supply air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_EAF_LOW_RPM	I	HR	1414	0	5000	Low extract air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_SAF_NORMAL_RPM	I	HR	1415	0	5000	Normal supply air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_EAF_NORMAL_RPM	I	HR	1416	0	5000	Normal extract air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_SAF_HIGH_RPM	I	HR	1417	0	5000	HIgh supply air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_EAF_HIGH_RPM	I	HR	1418	0	5000	High extract air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_SAF_MAX_RPM	I	HR	1419	0	5000	Maximum supply air fan speed setting for RPM control mode, RPM
REG_FAN_LEVEL_EAF_MAX_RPM	I	HR	1420	0	5000	Maximum extract air fan speed setting for RPM control mode, RPM

2.4.1.3 Airflow VAV regulation

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LEVEL_SAF_MIN_PRESSURE	I	HR	1421			Minumum supply air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_EAF_MIN_PRESSURE	I	HR	1422			Minumum extract air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_SAF_LOW_PRESSURE	I	HR	1423			Low supply air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_EAF_LOW_PRESSURE	I	HR	1424			Low extract air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_SAF_NORMAL_ PRESSURE	I	HR	1425			Normal supply air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_EAF_NORMAL_ PRESSURE	I	HR	1426			Normal extract air fan speed setting for pressure control mode, Pa

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LEVEL_SAF_HIGH_PRESSURE	I	HR	1427			HIgh supply air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_EAF_HIGH_PRESSURE	I	HR	1428			High extract air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_SAF_MAX_PRESSURE	I	HR	1429			Maximum supply air fan speed setting for pressure control mode, Pa
REG_FAN_LEVEL_EAF_MAX_PRESSURE	I	HR	1430			Maximum extract air fan speed setting for pressure control mode, Pa

2.4.1.4 Airflow CAV regulation

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_K_FACTOR_SAF	I	HR	14401	0	1000	K factor value for supply air fan. Applies only if fan is controlled by flow.
REG_K_FACTOR_EAF	I	HR	14402	0	1000	K factor value for extract air fan. Applies only if fan is controlled by flow.
REG_FAN_LEVEL_SAF_MIN_FLOW	I	HR	1431			Minimum supply air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_EAF_MIN_FLOW	I	HR	1432			Minimum extract air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_SAF_LOW_FLOW	I	HR	1433			Low supply air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_EAF_LOW_FLOW	I	HR	1434			Low extract air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_SAF_NORMAL_FLOW	I	HR	1435			Normal supply air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_EAF_NORMAL_FLOW	I	HR	1436			Normal extract air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_SAF_HIGH_FLOW	I	HR	1437			High supply air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_EAF_HIGH_FLOW	I	HR	1438			High extract air fan speed setting for flow control mode, configured flow units.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LEVEL_SAF_MAX_FLOW	I	HR	1439			Maximum supply air fan speed setting for flow control mode, configured flow units.
REG_FAN_LEVEL_EAF_MAX_FLOW	I	HR	1440			Maximum extract air fan speed setting for flow control mode, configured flow units.

2.5 Fan alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_SAF_CTRL_ERROR	I	IR	15001	0	1	Supply air fan control alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_SAF_CTRL_ALARM	I	IR	15002	0	3	Supply air fan control alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_SAF_CTRL_CLEAR_ALARM	I	HR	15003	0	1	Supply air fan control alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_SAF_CTRL_ERROR_DURATION_COUNTER	I	IR	15007	0		Alarm counter value, seconds.
REG_ALARM_SAF_CTRL_TIMESTAMP_L	I	IR	15301	0	65536	Timestamp of supply air fan control alarm, lower 16 bits
REG_ALARM_SAF_CTRL_TIMESTAMP_H	I	IR	15302	0	65536	Timestamp of supply air fan control alarm, higher 16 bits
REG_ALARM_EAF_CTRL_ERROR	I	IR	15008	0	1	Extract air fan control alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EAF_CTRL_ALARM	I	IR	15009	0	3	Extract air fan control alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EAF_CTRL_CLEAR_ALARM	I	HR	15010	0	1	Extract air fan control alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EAF_CTRL_ERROR_DURATION_COUNTER	I	IR	15014	0		Alarm counter value.
REG_ALARM_EAF_CTRL_TIMESTAMP_L	I	IR	15303	0	65536	Timestamp of extract air fan control alarm, lower 16 bits.
REG_ALARM_EAF_CTRL_TIMESTAMP_H	I	IR	15304	0	65536	Timestamp of extract air fan control alarm, higher 16 bits.
REG_ALARM_SAF_RPM_ERROR	I	IR	15029	0	1	Supply air fan feedback alarm return status: 0 - Returned 1 - Not returned

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_SAF_RPM_ALARM	I	IR	15030	0	3	Supply air fan feedback alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_SAF_RPM_CLEAR_ALARM	I	HR	15031	0	1	Supply air fan feedback alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_SAF_RPM_ERROR_DURATION_COUNTER	I	IR	15035	0		Alarm counter value.
REG_ALARM_SAF_RPM_TIMESTAMP_L	I	IR	15309	0	65536	Timestamp of supply air fan feedback alarm, lower 16 bits.
REG_ALARM_SAF_RPM_TIMESTAMP_H	I	IR	15310	0	65536	Timestamp of supply air fan feedback alarm, higher 16 bits.
REG_ALARM_EAF_RPM_ERROR	I	IR	15036	0	1	Extract air fan feedback alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EAF_RPM_ALARM	I	IR	15037	0	3	Extract air fan feedback alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EAF_RPM_CLEAR_ALARM	I	HR	15038	0	1	Extract air fan feedback alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EAF_RPM_ERROR_DURATION_COUNTER	I	IR	15042	0		Alarm counter value.
REG_ALARM_EAF_RPM_TIMESTAMP_L	I	IR	15311	0	65536	Timestamp of extract air fan feedback alarm, lower 16 bits.
REG_ALARM_EAF_RPM_TIMESTAMP_H	I	IR	15312	0	65536	Timestamp of extract air fan feedback alarm, higher 16 bits.

2.6 Fan operation time

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LOG_SAF_NON_RESETTABLE1_L	I	IR	1551	0	65536	Supply air fan operation time at output range 0-20%, lower 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTABLE1_H	I	IR	1552	0	65536	Supply air fan operation time at output range 0-20%, higher 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTABLE2_L	I	IR	1553	0	65536	Supply air fan operation time at output range 21-40%, lower 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTABLE2_H	I	IR	1554	0	65536	Supply air fan operation time at output range 21-40%, higher 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTABLE3_L	I	IR	1555	0	65536	Supply air fan operation time at output range 41-60%, lower 16 bits, h

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_LOG_SAF_NON_RESETTA-BLE3_H	I	IR	1556	0	65536	Supply air fan operation time at output range 41-60%, higher 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTA-BLE4_L	I	IR	1557	0	65536	Supply air fan operation time at output range 61-80%, lower 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTA-BLE4_H	I	IR	1558	0	65536	Supply air fan operation time at output range 61-80%, higher 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTA-BLE5_L	I	IR	1559	0	65536	Supply air fan operation time at output range 81-100%, lower 16 bits, h
REG_FAN_LOG_SAF_NON_RESETTA-BLE5_H	I	IR	1560	0	65536	Supply air fan operation time at output range 81-100%, higher 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE1_L	I	IR	1561	0	65536	Extract air fan operation time at output range 0-20%, lower 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE1_H	I	IR	1562	0	65536	Extract air fan operation time at output range 0-20%, higher 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE2_L	I	IR	1563	0	65536	Extract air fan operation time at output range 21-40%, lower 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE2_H	I	IR	1564	0	65536	Extract air fan operation time at output range 21-40%, higher 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE3_L	I	IR	1565	0	65536	Extract air fan operation time at output range 41-60%, lower 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE3_H	I	IR	1566	0	65536	Extract air fan operation time at output range 41-60%, higher 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE4_L	I	IR	1567	0	65536	Extract air fan operation time at output range 61-80%, lower 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE4_H	I	IR	1568	0	65536	Extract air fan operation time at output range 61-80%, higher 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE5_L	I	IR	1569	0	65536	Extract air fan operation time at output range 81-100%, lower 16 bits, h
REG_FAN_LOG_EAF_NON_RESETTA-BLE5_H	I	IR	1570	0	65536	Extract air fan operation time at output range 81-100%, higher 16 bits, h

3 User modes data

3.1 User mode input status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_DI_AWAY	I	IR	12301	0	1	Away mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_HOLIDAY	I	IR	12302	0	1	Holiday mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_FIREPLACE	I	IR	12303	0	1	Fireplace mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_REHRESH	I	IR	12304	0	1	Refresh mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_CROWDED	I	IR	12305	0	1	Crowded mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_COOKERHOOD	I	IR	12306	0	1	Cookerhood mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_VACUUMCLEANER	I	IR	12307	0	1	Central vacuum cleaner mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_PRESSURE_GUARD	I	IR	12313	0	1	Pressure guard mode input status: 0 - Inactive 1 - Active
REG_SENSOR_DI_CDI_1	I	IR	12314	0	1	Configurable digital input 1 status: 0 - Inactive 1 - Active
REG_SENSOR_DI_CDI_2	I	IR	12315	0	1	Configurable digital input 2 status: 0 - Inactive 1 - Active
REG_SENSOR_DI_CDI_3	I	IR	12316	0	1	Configurable digital input 3 status: 0 - Inactive 1 - Active

3.2 Function input status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_VACUUM_CLEANER	I	IR	3109	0	1	Vacuum cleaner function status: 0 - Inactive; 1 - Active
REG_FUNCTION_ACTIVE_COOKER_HOOD	I	IR	3110	0	1	Cooker hood function status: 0 - Inactive; 1 - Active

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_PRESSURE_GUARD	I	IR	3114	0	1	Pressure guard function status: 0 - Inactive; 1 - Active
REG_FUNCTION_ACTIVE_CDI_1	I	IR	3115	0	1	Configurable digital input 1 function status: 0 - Inactive; 1 - Active
REG_FUNCTION_ACTIVE_CDI_2	I	IR	3116	0	1	Configurable digital input 2 function status: 0 - Inactive; 1 - Active
REG_FUNCTION_ACTIVE_CDI_3	I	IR	3117	0	1	Configurable digital input 3 function status: 0 - Inactive; 1 - Active

3.3 User mode remaining time

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_REMAINING_TIME_AWAY_DI_L	I	IR	1601	0	65536	Away mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_AWAY_DI_H	I	IR	1602	0	65536	Away mode remaining time, when activated by digital input, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_AWAY_HMI_L	I	IR	1603	0	65536	Away mode remaining time, when activated using user interface, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_AWAY_HMI_H	I	IR	1604	0	65536	Away mode remaining time, when activated using user interface, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_CROWDED_DI_L	I	IR	1605	0	65536	Crowded mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_CROWDED_DI_H	I	IR	1606	0	65536	Crowded mode remaining time, when activated by digital input, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_CROWDED_HMI_L	I	IR	1607	0	65536	Crowded mode remaining time, when activated using user interface, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_CROWDED_HMI_H	I	IR	1608	0	65536	Crowded mode remaining time, when activated using user interface, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_HOLIDAY_DI_L	I	IR	1609	0	65536	Holiday mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_HOLIDAY_DI_H	I	IR	1610	0	65536	Holiday mode remaining time, when activated by digital input, higher 16 bits, s

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_REMAINING_TIME_HOLIDAY_HMI_L	I	IR	1611	0	65536	Holiday mode remaining time, when activated using user interface, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_HOLIDAY_HMI_H	I	IR	1612	0	65536	Holiday mode remaining time, when activated using user interface, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_FIREPLACE_DI_L	I	IR	1613	0	65536	Fireplace mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_FIREPLACE_DI_H	I	IR	1614	0	65536	Fireplace mode remaining time, when activated by digital input, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_FIREPLACE_HMI_L	I	IR	1615	0	65536	Fireplace mode remaining time, when activated using user interface, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_FIREPLACE_HMI_H	I	IR	1616	0	65536	Fireplace mode remaining time, when activated using user interface, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_REFRESH_DI_L	I	IR	1617	0	65536	Refresh mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_REFRESH_DI_H	I	IR	1618	0	65536	Refresh mode remaining time, when activated by digital input, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_REFRESH_HMI_L	I	IR	1619	0	65536	Refresh mode remaining time, when activated using user interface, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_REFRESH_HMI_H	I	IR	1620	0	65536	Refresh mode remaining time, when activated using user interface, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_CDI1_L	I	IR	1621	0	65536	Configurable digital input 1 mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_CDI1_H	I	IR	1622	0	65536	Configurable digital input 1 mode remaining time, when activated by digital input, higher 16 bits, s
REG_USERMODE_REMAINING_TIME_CDI2_L	I	IR	1623	0	65536	Configurable digital input 2 mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_CDI2_H	I	IR	1624	0	65536	Configurable digital input 2 mode remaining time, when activated by digital input, higher 16 bits, s

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_REMAINING_TIME_CDI3_L	I	IR	1625	0	65536	Configurable digital input 3 mode remaining time, when activated by digital input, lower 16 bits, s
REG_USERMODE_REMAINING_TIME_CDI3_H	I	IR	1626	0	65536	Configurable digital input 3 mode remaining time, when activated by digital input, higher 16 bits, s

3.4 Recalculated fan speed for user modes

Value can be %, RPM, Pressure or Flow. Value depends on contents of register 1274.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SPEED_MANUAL_SAF	I	IR	1201	0		Supply air fan speed on manual mode expressed by selected fan control mode.
REG_SPEED_MANUAL_EAF	I	IR	1202	0		Extract air fan speed on manual mode expressed by selected fan control mode.
REG_SPEED_AUTO_SAF	I	IR	1203	0		Supply air fan speed on auto mode expressed by selected fan control mode.
REG_SPEED_AUTO_EAF	I	IR	1204	0		Extract air fan speed on auto mode expressed by selected fan control mode.
REG_SPEED_CROWDED_SAF	I	IR	1205	0		Supply air fan speed on crowded mode expressed by selected fan control mode.
REG_SPEED_CROWDED_EAF	I	IR	1206	0		Extract air fan speed on crowded mode expressed by selected fan control mode.
REG_SPEED_REFRESH_SAF	I	IR	1207	0		Supply air fan speed on refresh mode expressed by selected fan control mode.
REG_SPEED_REFRESH_EAF	I	IR	1208	0		Extract air fan speed on refresh mode expressed by selected fan control mode.
REG_SPEED_FIREPLACE_SAF	I	IR	1209	0		Supply air fan speed on fireplace mode expressed by selected fan control mode.
REG_SPEED_FIREPLACE_EAF	I	IR	1210	0		Extract air fan speed on fireplace mode expressed by selected fan control mode.
REG_SPEED_AWAY_SAF	I	IR	1211	0		Supply air fan speed on away mode expressed by selected fan control mode.
REG_SPEED_AWAY_EAF	I	IR	1212	0		Extract air fan speed on away mode expressed by selected fan control mode.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SPEED_HOLIDAY_SAF	I	IR	1213	0		Supply air fan speed on holiday mode expressed by selected fan control mode.
REG_SPEED_HOLIDAY_EAF	I	IR	1214	0		Extract air fan speed on holiday mode expressed by selected fan control mode.
REG_SPEED_COOKERHOOD_SAF	I	IR	1215	0		Supply air fan speed on cookerhood mode expressed by selected fan control mode.
REG_SPEED_COOKERHOOD_EAF	I	IR	1216	0		Extract air fan speed on cookerhood mode expressed by selected fan control mode.
REG_SPEED_VACUUMCLEANER_SAF	I	IR	1217	0		Supply air fan speed on vacuum cleaner mode expressed by selected fan control mode.
REG_SPEED_VACUUMCLEANER_EAF	I	IR	1218	0		Extract air fan speed on vacuum cleaner mode expressed by selected fan control mode.
REG_SPEED_CDI1_SAF	I	IR	1221	0		Supply air fan speed on configurable digital input 1 mode expressed by selected fan control mode.
REG_SPEED_CDI1_EAF	I	IR	1222	0		Extract air fan speed on configurable digital input 1 mode expressed by selected fan control mode.
REG_SPEED_CDI2_SAF	I	IR	1223	0		Supply air fan speed on configurable digital input 2 mode expressed by selected fan control mode.
REG_SPEED_CDI2_EAF	I	IR	1224	0		Extract air fan speed on configurable digital input 2 mode expressed by selected fan control mode.
REG_SPEED_CDI3_SAF	I	IR	1225	0		Supply air fan speed on configurable digital input 3 mode expressed by selected fan control mode.
REG_SPEED_CDI3_EAF	I	IR	1226	0		Extract air fan speed on configurable digital input 3 mode expressed by selected fan control mode.
REG_SPEED_PRESSURE_GUARD_SAF	I	IR	1227	0		Supply air fan speed on pressure guard mode expressed by selected fan control mode.
REG_SPEED_PRESSURE_GUARD_EAF	I	IR	1228	0		Extract air fan speed on pressure guard mode expressed by selected fan control mode.

3.5 Speed level setting for user modes

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_CROWDED_AIRFLOW_LEVEL_SAF	I	HR	1135	3	5	Supply fan speed for crowded mode: 3: Normal 4: High 5: Maximum
REG_USERMODE_CROWDED_AIRFLOW_LEVEL_EAF	I	HR	1136	3	5	Extract fan speed for crowded mode: 3: Normal 4: High 5: Maximum
REG_USERMODE_REFRESH_AIRFLOW_LEVEL_SAF	I	HR	1137	3	5	Supply fan speed for refresh mode: 3: Normal 4: High 5: Maximum
REG_USERMODE_REFRESH_AIRFLOW_LEVEL_EAF	I	HR	1138	3	5	Extract fan speed for refresh mode: 3: Normal 4: High 5: Maximum
REG_USERMODE_FIREPLACE_AIRFLOW_LEVEL_SAF	I	HR	1139	3	5	Supply fan speed for fireplace mode: 3: Normal 4: High 5: Maximum
REG_USERMODE_FIREPLACE_AIRFLOW_LEVEL_EAF	I	HR	1140	1	3	Extract fan speed for fireplace mode: 1: Minimum 2: Low 3: Normal
REG_USERMODE_AWAY_AIRFLOW_LEVEL_SAF	I	HR	1141	0	3	Supply fan speed for away mode: 0: Off 1: Minimum 2: Low 3: Normal
REG_USERMODE_AWAY_AIRFLOW_LEVEL_EAF	I	HR	1142	0	3	Extract fan speed for away mode: 0: Off 1: Minimum 2: Low 3: Normal
REG_USERMODE_HOLIDAY_AIRFLOW_LEVEL_SAF	I	HR	1143	0	3	Supply fan speed for holiday mode: 0: Off 1: Minimum 2: Low 3: Normal
REG_USERMODE_HOLIDAY_AIRFLOW_LEVEL_EAF	I	HR	1144	0	3	Extract fan speed for holiday mode: 0: Off 1: Minimum 2: Low 3: Normal
REG_USERMODE_COOKERHOOD_AIRFLOW_LEVEL_SAF	I	HR	1145	1	5	Supply fan speed for cookerhood mode: 1: Minimum 2: Low 3: Normal 4: High 5: Maximum

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_COOKERHOOD_AIR-FLOW_LEVEL_EAF	I	HR	1146	1	5	Extract fan speed for cookerhood mode: 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_USERMODE_VACUUMCLEANER_ AIRFLOW_LEVEL_SAF	I	HR	1147	1	5	Supply fan speed for vacuum cleaner mode: 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_USERMODE_VACUUMCLEANER_ AIRFLOW_LEVEL_EAF	I	HR	1148	1	5	Extract fan speed for vacuum cleaner mode: 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_CDI_1_AIRFLOW_LEVEL_SAF	I	HR	1171	0	5	Supply fan speed for configurable digital input 1 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_CDI_1_AIRFLOW_LEVEL_EAF	I	HR	1172	0	5	Extract fan speed for configurable digital input 1 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_CDI_2_AIRFLOW_LEVEL_SAF	I	HR	1173	0	5	Supply fan speed for configurable digital input 2 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_CDI_2_AIRFLOW_LEVEL_EAF	I	HR	1174	0	5	Extract fan speed for configurable digital input 2 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_CDI_3_AIRFLOW_LEVEL_SAF	I	HR	1175	0	5	Supply fan speed for configurable digital input 3 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_CDI_3_AIRFLOW_LEVEL_EAF	I	HR	1176	0	5	Extract fan speed for configurable digital input 3 mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_PRESSURE_GUARD_AIRFLOW_LEVEL_SAF	I	HR	1177	0	5	Supply fan speed for pressure guard mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum
REG_PRESSURE_GUARD_AIRFLOW_LEVEL_EAF	I	HR	1178	0	5	Extract fan speed for pressure guard mode: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum

3.6 Delay time settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_HOLIDAY_TIME	I	HR	1101	1	365	Time delay setting for user mode Holiday, days.
REG_USERMODE_AWAY_TIME	I	HR	1102	1	72	Time delay setting for user mode Away, hours.
REG_USERMODE_FIREPLACE_TIME	I	HR	1103	1	60	Time delay setting for user mode Fire Place, minutes.
REG_USERMODE_REFRESH_TIME	I	HR	1104	1	240	Time delay setting for user mode Refresh, minutes.
REG_USERMODE_CROWDED_TIME	I	HR	1105	1	8	Time delay setting for user mode Crowded, hours.
REG_USERMODE_HOLIDAY_DI_OFF_DELAY	I	HR	1181	0	365	Digital input time delay setting for user mode Holiday, days.
REG_USERMODE_AWAY_DI_OFF_DELAY	I	HR	1182	0	72	Digital input time delay setting for user mode Away, hours.
REG_USERMODE_FIRPLACE_DI_OFF_DELAY	I	HR	1183	0	60	Digital input time delay setting for user mode Fire Place, minutes.
REG_USERMODE_REFRESH_DI_OFF_DELAY	I	HR	1184	0	240	Digital input time delay setting for user mode Refresh, minutes.
REG_USERMODE_CROWDED_DI_OFF_DELAY	I	HR	1185	0	8	Digital input time delay setting for user mode Crowded, hours.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_CDI1_OFF_DELAY	I	HR	1186	0	240	Digital input time delay setting for user mode Configurable digital input 1, minutes.
REG_CDI2_OFF_DELAY	I	HR	1187	0	240	Digital input time delay setting for user mode Configurable digital input 2, minutes.
REG_CDI3_OFF_DELAY	I	HR	1188	0	240	Digital input time delay setting for user mode Configurable digital input 3, minutes.

3.7 Crowded user mode temperature reduction

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_USERMODE_CROWDED_T_ OFFSET	I	HR	1151	0	65436	Supply air temperature decrease during Crowded user mode.

4 Temperature control

4.1 Settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_TC_SP	I*	HR	2001	120	300	User temperature setpoint.
REG_TC_CONTROL_MODE	I	HR	2031			Temperature control mode: 0 - Supply air; 1 - Room air; 2 - Extract air
REG_TC_CASCADE_SP_MIN	I	HR	2021			Minimum temperature setpoint for supply air. Valid only if extract/room air temperature control mode is configured.
REG_TC_CASCADE_SP_MAX	I	HR	2022			Maximum temperature setpoint for supply air. Valid only if extract/room air temperature control mode is configured.
REG_TC_CONTROL_PBAND	I	HR	2041			Supply air temperature control P-band value.
REG_TC_CONTROL_ITIME	I	HR	2042			Supply air temperature control I-time value.
REG_TC_CASCADE_PBAND	I	HR	2011	10	600	Extract/room air temperature control P-band value. Valid only if extract/room air temperature control mode is configured.
REG_TC_CASCADE_ITIME	I	HR	2012	0	240	Extract/room air temperature control I-time value. Valid only if extract/room air temperature control mode is configured.

4.2 Operation data

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SATC_HEAT_DEMAND	I	IR	2055			Overall heat demand, %.
REG_TC_SP_SATC	I	IR	2054			Temperature setpoint for supply air temperature calculated for extract/room air temperature control mode.

4.3 Alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOW_SAT_ERROR	I	IR	15176	0	1	Low supply air temperature alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_LOW_SAT_ALARM	I	IR	15177	0	3	Low supply air temperature alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOW_SAT_CLEAR_ALARM	I	HR	15178	0	1	Low supply air temperature alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_LOW_SAT_ERROR_DURATION_COUNTER	I	IR	15182	0		Alarm counter value, seconds.
REG_ALARM_LOW_SAT_TIMESTAMP_L	I	IR	15351	0	65536	Timestamp of low supply air temperature alarm, lower 16 bits.
REG_ALARM_LOW_SAT_TIMESTAMP_H	I	IR	15352	0	65536	Timestamp of low supply air temperature alarm, higher 16 bits.

5 Heat recovery data

5.1 Common

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_HEAT_RECOVERY	I	IR	3105	0	1	Heat recovery function status: 0 - Inactive; 1 - Active
REG_HEAT_EXCHANGER_FROM_SATC	I	IR	2141	0	100	Heat recovery demand by temperature control, %
REG_OUTPUT_Y2_ANALOG	I	IR	14103	0	100	Heat exchanger analog output value, %

5.2 Rotary heat exchanger (for V*R units)

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ROTOR_CLEANING_DESIRED	I	IR	2221	0	1	Rotary heat exchanger cleaning function status: 0 - Inactive; 1 - Active
REG_SENSOR_RGS	I	IR	12112	0	1	Rotor guard sensor input status: 0 - Inactive 1 - Active
REG_ALARM_RGS_ERROR	I	IR	15120	0	1	Rotary heat exchanger rotation guard alarm return status: 0 - Returned 1 - Not returned

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_RGS_ALARM	I	IR	15121	0	3	Rotary heat exchanger rotation guard alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_RGS_CLEAR_ALARM	I	HR	15122	0	1	Rotary heat exchanger rotation guard alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_RGS_ERROR_DURATION_COUNTER	I	IR	15126	0		Alarm counter value.
REG_ALARM_RGS_TIMESTAMP_L	I	IR	15335	0	65536	Timestamp of rotary heat exchanger rotation guard alarm, lower 16 bits.
REG_ALARM_RGS_TIMESTAMP_H	I	IR	15336	0	65536	Timestamp of rotary heat exchanger rotation guard alarm, higher 16 bits.

5.3 Plate heat exchanger (for V*C units)

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_DI_BYF	I	IR	12405	0	100	Bypass damper feedback value, %.
REG_SENSOR_BYS	I	IR	12110	0	1	Bypass damper input status: 0 - Inactive 1 - Active
REG_ALARM_BYS_ERROR	I	IR	15127	0	1	Plate heat exchanger bypass damper alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_BYS_ALARM	I	IR	15128	0	3	Plate heat exchanger bypass damper alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_BYS_CLEAR_ALARM	I	HR	15129	0	1	Plate heat exchanger bypass damper alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_BYS_ERROR_DURATION_COUNTER	I	IR	15133	0		Alarm counter value.
REG_ALARM_BYS_TIMESTAMP_L	I	IR	15337	0	65536	Timestamp of plate heat exchanger bypass damper alarm, lower 16 bits.
REG_ALARM_BYS_TIMESTAMP_H	I	IR	15338	0	65536	Timestamp of plate heat exchanger bypass damper alarm, higher 16 bits.
REG_ALARM_BYF_ERROR	I	IR	15183	0	1	Plate heat exchanger bypass damper feedback alarm return status: 0 - Returned 1 - Not returned

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_BYF_ALARM	I	IR	15184	0	3	Plate heat exchanger bypass damper feedback alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_BYF_CLEAR_ALARM	I	HR	15185	0	1	Plate heat exchanger bypass damper feedback alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_BYF_ERROR_DURATION_COUNTER	I	IR	15189	0		Alarm counter value.
REG_ALARM_BYF_TIMESTAMP_L	I	IR	15355	0	65536	Timestamp of plate heat exchanger bypass damper feedback alarm, lower 16 bits.
REG_ALARM_BYF_TIMESTAMP_H	I	IR	15356	0	65536	Timestamp of plate heat exchanger bypass damper feedback alarm, higher 16 bits.

6 Defrosting (for V*C units)

6.1 Defrosting mode and status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEFROSTING_MODE	I	HR	4001	0	2	Defrosting mode: 0 - Soft; 1 - Normal; 2 - Hard
REG_FUNCTION_ACTIVE_DEFROSTING	I	IR	3104	0	1	Defrosting status: 0 - Inactive; 1 - Active
REG_FUNCTION_ACTIVE_SECONDARY_AIR	I	IR	3108	0	1	Secondary air function status: 0 - Inactive; 1 - Active
REG_OUTPUT_Y4_SECONDARY_AIR	I	IR	14307	0	1	Air recirculation digital output status: 0 - Inactive 1 - Active
REG_DEFROSTING_STATE	I	IR	4011	0	4	Defrosting state: 0 - Normal; 1 - Bypass; 2 - Stop; 3 - Secondary air; 4 - Error
REG_DEFROSTING_COUNTER	I	IR	4012			Time in specific defrosting state, s.
REG_DEFROSTING_LEVEL	I	IR	4003	0	5	Defrosting level.

6.2 Alarm status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_DEFROSTING_ERROR	I	IR	15022	0	1	Defrosting alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_DEFROSTING_ALARM	I	IR	15023	0	3	Defrosting alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_DEFROSTING_CLEAR_ALARM	I	HR	15024	0	1	Defrosting alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_DEFROSTING_ERROR_DURATION_COUNTER	I	IR	15028	0		Alarm counter value.
REG_ALARM_DEFROSTING_TIMESTAMP_L	I	IR	15307	0	65536	Timestamp of defrosting alarm, lower 16 bits.
REG_ALARM_DEFROSTING_TIMESTAMP_H	I	IR	15308	0	65536	Timestamp of defrosting alarm, higher 16 bits.
REG_ALARM_SECONDARY_AIR_ERROR	I	IR	15134	0	1	Secondary air damper alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_SECONDARY_AIR_ALARM	I	IR	15135	0	3	Secondary air damper alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_SECONDARY_AIR_CLEAR_ALARM	I	HR	15136	0	1	Secondary air damper alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_SECONDARY_AIR_ERROR_DURATION_COUNTER	I	IR	15140	0		Alarm counter value.
REG_ALARM_SECONDARY_AIR_TIMESTAMP_L	I	IR	15339	0	65536	Timestamp of secondary air damper alarm, lower 16 bits.
REG_ALARM_SECONDARY_AIR_TIMESTAMP_H	I	IR	15340	0	65536	Timestamp of secondary air damper alarm, higher 16 bits.

7 Heater data

7.1 Heater status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_HEATING	I	IR	3103	0	1	Heating status: 0 - Inactive; 1 - Active
REG_HEATER_FROM_SATC	I	IR	2114	0	100	Heating demand by temperature control, %.
REG_FUNCTION_ACTIVE_HEATER_COOL_DOWN	I	IR	3113	0	1	Heater cooldown function status: 0 - Inactive; 1 - Active
REG_PWM_TRIAC_OUTPUT	I	IR	2149	0	100	Heater TRIAC output, %.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y1_ANALOG	I	IR	14101	0	100	Heater analog output value, %.
REG_OUTPUT_Y1_DIGITAL	I	IR	14102	0	1	Heater digital output status: 0 - Inactive 1 - Active
REG_SENSOR_EMT	I	IR	12111	0	1	Emergency thermostat input status: 0 - Inactive 1 - Active

7.2 Circulation pump

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y1_CIRC_PUMP	I	IR	14301	0	1	Heating circulation pump digital output status: 0 - Inactive 1 - Active
REG_HEATER_CIRC_PUMP_COUNTER	I	IR	2124	0	3600	Time till heating circulation pump stops, s.
REG_HEATER_CIRC_PUMP_START_T	I	HR	2113	0	200	Temperature at which circulation pump for heating is started.
REG_HEATER_CIRC_PUMP_STOP_DELAY	I	HR	2122	0	60	Heating circulation pump stop delay time, min.

7.3 Alarm status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_EMT_ERROR	I	IR	15113	0	1	Emergency thermostat alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EMT_ALARM	I	IR	15114	0	3	Emergency thermostat alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EMT_CLEAR_ALARM	I	HR	15115	0	1	Emergency thermostat alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EMT_ERROR_DURATION_COUNTER	I	IR	15119	0		Alarm counter value.
REG_ALARM_EMT_TIMESTAMP_L	I	IR	15333	0	65536	Timestamp of emergency thermostat alarm, lower 16 bits.
REG_ALARM_EMT_TIMESTAMP_H	I	IR	15334	0	65536	Timestamp of emergency thermostat alarm, higher 16 bits.
REG_ALARM_OVERHEAT_TEMPERATURE_ERROR	I	IR	15529	0	1	Heater overheat alarm return status: 0 - Returned 1 - Not returned

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_OVERHEAT_TEMPERATURE_ALARM	I	IR	15530	0	3	Heater overheat alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_OVERHEAT_TEMPERATURE_CLEAR_ALARM	I	HR	15531	0	1	Heater overheat alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_OVERHEAT_TEMPERATURE_ERROR_DURATION_COUNTER	I	IR	15535	0		Alarm counter value.
REG_ALARM_OVERHEAT_TEMPERATURE_TIMESTAMP_L	I	IR	15609	0	65536	Timestamp of heater overheat alarm, lower 16 bits.
REG_ALARM_OVERHEAT_TEMPERATURE_TIMESTAMP_H	I	IR	15610	0	65536	Timestamp of heater overheat alarm, higher 16 bits.
REG_ALARM_FROST_PROT_ERROR	I	IR	15015	0	1	Frost protection alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_FROST_PROT_ALARM	I	IR	15016	0	3	Frost protection alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_FROST_PROT_CLEAR_ALARM	I	HR	15017	0	1	Frost protection alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_FROST_PROT_ERROR_DURATION_COUNTER	I	IR	15021	0		Alarm counter value.
REG_ALARM_FROST_PROT_TIMESTAMP_L	I	IR	15305	0	65536	Timestamp of frost proctection alarm, lower 16 bits.
REG_ALARM_FROST_PROT_TIMESTAMP_H	I	IR	15306	0	65536	Timestamp of frost proctection alarm, higher 16 bits.

8 Cooler data

8.1 Cooler status & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_COOLING	I	IR	3101	0	1	Cooling status: 0 - Inactive; 1 - Active
REG_COOLER_FROM_SATC	I	IR	2311	0	100	Cooling demand by temperature control, %.
REG_OUTPUT_Y3_ANALOG	I	IR	14201	0	100	Cooler analog output value, %.
REG_OUTPUT_Y3_DIGITAL	I	IR	14202	0	1	Cooler digital output status: 0 - Inactive 1 - Active
REG_OUTPUT_Y3_ACTIVATE_COIL	I	IR	14305	0	1	Activate cooling digital output status: 0 - Inactive 1 - Active
REG_COOLER_OAT_INTERLOCK_T	I	HR	2316	0	200	Outside air temperature value at which cooler operation is disabled.

8.2 Circulation pump

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y3_CIRC_PUMP	I	IR	14302	0	1	Cooling circulation pump digital output status: 0 - Inactive 1 - Active
REG_COOLER_CIRC_PUMP_COUNTER	I	IR	2318	0	3600	Time till cooling circulation pump stops, s.
REG_COOLER_CIRC_PUMP_STOP_DELAY	I	HR	2317	0	60	Cooling circulation pump stop delay time, min.

9 External temperature control device data

9.1 Extra device data & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y4_ANALOG	I	IR	14203	0	100	Extra controller analog output value, %.
REG_OUTPUT_Y4_DIGITAL	I	IR	14204	0	1	Extra controller digital output status: 0 - Inactive 1 - Active
REG_SENSOR_DI_EXTRA_CONTROLLER_EMT	I	IR	12310	0	1	Extra controller alarm input status: 0 - Inactive 1 - Active
REG_EXTRA_CONTROLLER_SET_PI_SETPOINT	I	HR	2403	0	65536	Extra controller temperature setpoint.
REG_EXTRA_CONTROLLER_SET_PI_PBAND	I	HR	2401	10	600	Extra controller P-band value.
REG_EXTRA_CONTROLLER_SET_PI_ITIME	I	HR	2402	0	240	Extra controller I-time value, s.

9.2 Circulation pump

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y4_CIRC_PUMP	I	IR	14304	0	1	Extra controller circulation pump digital output status: 0 - Inactive 1 - Active
REG_EXTRA_CONTROLLER_CIRC_PUMP_COUNTER	I	IR	2419	0	3600	Time till extra controller circulation pump stops, s.
REG_EXTRA_CONTROLLER_CIRC_PUMP_START_T	I	HR	2404	0	200	Temperature at which circulation pump for heating is started.
REG_EXTRA_CONTROLLER_CIRC_PUMP_STOP_DELAY	I	HR	2405	0	60	Extra controller circulation pump stop delay time, min.

9.3 Preheater settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_EXTRA_CONTROLLER_PREHEATER_SETPOINT_TYPE	I	HR	2418	0	1	Preheater setpoint type: 0 - Auto; 1 - Manual
REG_EXTRA_CONTROLLER_PREHEATER_DEACTIVATE_AT_HIGH_OAT	I	HR	2427	0	1	Preheater deactivation by outside air temperature status: 0 - Disabled; 1 - Enabled
REG_EXTRA_CONTROLLER_PREHEATER_ACTIVATION_T	I	HR	2428	0	65536	Temperature at which preheater operation is allowed.

9.4 GEO exchanger data

9.4.1 GEO exchanger status & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_EXTRA_CONTROLLER_GEO_SUMMER_WINTER_MODE	I	IR	2426			Mode for GEO heat exchanger: 0 - None; 1 - Summer; 2 - Winter
REG_EXTRA_CONTROLLER_GEO_SUMMER_WINTER_CNTR_L	I	IR	2424			Time till summer mode will be activated for GEO heat exchanger, s.
REG_EXTRA_CONTROLLER_GEO_SUMMER_WINTER_CNTR_H	I	IR	2425			Time till summer mode will be activated for GEO heat exchanger, s.
REG_EXTRA_CONTROLLER_GEO_PREHEATER_SP	I	HR	2420	0	65536	Winter temperature set-point for GEO heat exchanger.
REG_EXTRA_CONTROLLER_GEO_PRECOOLER_SP	I	HR	2422	100	300	Summer temperature set-point for GEO heat exchanger.
REG_EXTRA_CONTROLLER_GEO_PREHEATER_ACTIVATION_T	I	HR	2421	0	65536	Temperature at which GEO exchanger should be activated in winter mode.
REG_EXTRA_CONTROLLER_GEO_PRECOOLER_ACTIVATION_T	I	HR	2423	150	300	Temperature at which GEO exchanger should be activated in summer mode.

9.4.2 Alarm status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_EXTRA_CONTROLLER_ERROR	I	IR	15148	0	1	Extra controller alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EXTRA_CONTROLLER_ALARM	I	IR	15149	0	3	Extra controller alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EXTRA_CONTROLLER_CLEAR_ALARM	I	HR	15150	0	1	Extra controller alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EXTRA_CONTROLLER_ERROR_DURATION_COUNTER	I	IR	15154	0		Alarm counter value.
REG_ALARM_EXTRA_CONTROLLER_TIMESTAMP_L	I	IR	15343	0	65536	Timestamp of extra controller alarm, lower 16 bits.
REG_ALARM_EXTRA_CONTROLLER_TIMESTAMP_H	I	IR	15344	0	65536	Timestamp of extra controller alarm, higher 16 bits.

10 Combined heater/cooler status & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_Y1_Y3_ANALOG	I	IR	14306	0	100	Change over analog output value, %.
REG_OUTPUT_Y1_Y3_CIRC_PUMP	I	IR	14303	0	1	Change over circulation pump digital output status: 0 - Inactive 1 - Active
REG_CHANGE_OVER_CIRC_PUMP_ COUNTER	I	HR	2453	0	3600	Time till change over circulation pump stops, s.
REG_SENSOR_DI_CHANGE_OVER_ FEEDBACK	I	IR	12312	0	1	Change over feedback input status: 0 - Inactive 1 - Active
REG_CHANGE_OVER_CIRC_PUMP_ START_T	I	HR	2451	0	200	Temperature at which change over circulation pump is started.
REG_CHANGE_OVER_CIRC_PUMP_ STOP_DELAY	I	HR	2452	0	60	Change over circulation pump stop delay time, min.

11 In-built sensor data

11.1 Temperature & Relative humidly status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_FPT	I	IR	12101	0	65536	Frost Protection Temperature sensor.
REG_SENSOR_OAT	I	IR	12102	0	65536	Outside air temperature sensor.
REG_SENSOR_SAT	I	IR	12103	0	65536	Supply Air Temperature sensor.
REG_SENSOR_RAT	I	IR	12104	0	65536	Room Air Temperature sensor.
REG_SENSOR_EAT	I	IR	12105	0	65536	Extract Air Temperature sensor.
REG_SENSOR_ECT	I	IR	12106	0	65536	Extra Controller Temperature sensor.
REG_SENSOR_EFT	I	IR	12107	0	65536	Efficiency Temperature sensor.
REG_SENSOR_OHT	I	IR	12108	0	65536	Over Heat Temperature sensor value.
REG_SENSOR_PDM_EAT_VALUE	I	IR	12544	0	65536	In-built extract air temperature sensor value.
REG_SENSOR_RHS_PDM	I	IR	12136	0	100	Extract air relative humidity sensor value.

11.2 Temperature sensor alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_FPT_ERROR	I	IR	15057	0	1	Frost protection temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_FPT_ALARM	I	IR	15058	0	3	Frost protection temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_FPT_CLEAR_ALARM	I	HR	15059	0	1	Frost protection temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_FPT_ERROR_DURATION_COUNTER	I	IR	15063	0		Alarm counter value.
REG_ALARM_FPT_TIMESTAMP_L	I	IR	15317	0	65536	Timestamp of frost protection temperature sensor alarm, lower 16 bits.
REG_ALARM_FPT_TIMESTAMP_H	I	IR	15318	0	65536	Timestamp of frost protection temperature sensor alarm, higher 16 bits.
REG_ALARM_OAT_ERROR	I	IR	15064	0	1	Outside air temperature sensor alarm return status: 0 - Returned 1 - Not returned

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_OAT_ALARM	I	IR	15065	0	3	Outside air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_OAT_CLEAR_ALARM	I	HR	15066	0	1	Outside air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_OAT_ERROR_DURATION_COUNTER	I	IR	15070	0		Alarm counter value.
REG_ALARM_OAT_TIMESTAMP_L	I	IR	15319	0	65536	Timestamp of outside air temperature sensor alarm, lower 16 bits.
REG_ALARM_OAT_TIMESTAMP_H	I	IR	15320	0	65536	Timestamp of outside air temperature sensor alarm, higher 16 bits.
REG_ALARM_SAT_ERROR	I	IR	15071	0	1	Supply air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_SAT_ALARM	I	IR	15072	0	3	Supply air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_SAT_CLEAR_ALARM	I	HR	15073	0	1	Supply air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_SAT_ERROR_DURATION_COUNTER	I	IR	15077	0		Alarm counter value.
REG_ALARM_SAT_TIMESTAMP_L	I	IR	15321	0	65536	Timestamp of supply air temperature sensor alarm, lower 16 bits.
REG_ALARM_SAT_TIMESTAMP_H	I	IR	15322	0	65536	Timestamp of supply air temperature sensor alarm, higher 16 bits.
REG_ALARM_RAT_ERROR	I	IR	15078	0	1	Room air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_RAT_ALARM	I	IR	15079	0	3	Room air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_RAT_CLEAR_ALARM	I	HR	15080	0	1	Room air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_RAT_ERROR_DURATION_COUNTER	I	IR	15084	0		Alarm counter value.
REG_ALARM_RAT_TIMESTAMP_L	I	IR	15323	0	65536	Timestamp of room air temperature sensor alarm, lower 16 bits.
REG_ALARM_RAT_TIMESTAMP_H	I	IR	15324	0	65536	Timestamp of room air temperature sensor alarm, higher 16 bits.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_EAT_ERROR	I	IR	15085	0	1	Extract air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EAT_ALARM	I	IR	15086	0	3	Extract air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EAT_CLEAR_ALARM	I	HR	15087	0	1	Extract air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EAT_ERROR_DURATION_COUNTER	I	IR	15091	0		Alarm counter value.
REG_ALARM_EAT_TIMESTAMP_L	I	IR	15325	0	65536	Timestamp of extract air temperature sensor alarm, lower 16 bits.
REG_ALARM_EAT_TIMESTAMP_H	I	IR	15326	0	65536	Timestamp of extract air temperature sensor alarm, higher 16 bits.
REG_ALARM_ECT_ERROR	I	IR	15092	0	1	Extra controller air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_ECT_ALARM	I	IR	15093	0	3	Extra controller air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_ECT_CLEAR_ALARM	I	HR	15094	0	1	Extra controller air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_ECT_ERROR_DURATION_COUNTER	I	IR	15098	0		Alarm counter value.
REG_ALARM_ECT_TIMESTAMP_L	I	IR	15327	0	65536	Timestamp of extra controller air temperature sensor alarm, lower 16 bits.
REG_ALARM_ECT_TIMESTAMP_H	I	IR	15328	0	65536	Timestamp of extra controller air temperature sensor alarm, higher 16 bits.
REG_ALARM_EFT_ERROR	I	IR	15099	0	1	Efficiency air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EFT_ALARM	I	IR	15100	0	3	Efficiency air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EFT_CLEAR_ALARM	I	HR	15101	0	1	Efficiency air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_EFT_ERROR_DURATION_COUNTER	I	IR	15105	0		Alarm counter value.
REG_ALARM_EFT_TIMESTAMP_L	I	IR	15329	0	65536	Timestamp of efficiency air temperature sensor alarm, lower 16 bits.
REG_ALARM_EFT_TIMESTAMP_H	I	IR	15330	0	65536	Timestamp of efficiency air temperature sensor alarm, higher 16 bits.
REG_ALARM_OHT_ERROR	I	IR	15106	0	1	Overheat temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_OHT_ALARM	I	IR	15107	0	3	Overheat temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_OHT_CLEAR_ALARM	I	HR	15108	0	1	Overheat temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_OHT_ERROR_DURATION_COUNTER	I	IR	15112	0		Alarm counter value.
REG_ALARM_OHT_TIMESTAMP_L	I	IR	15331	0	65536	Timestamp of overheat temperature sensor alarm, lower 16 bits.
REG_ALARM_OHT_TIMESTAMP_H	I	IR	15332	0	65536	Timestamp of overheat temperature sensor alarm, higher 16 bits.
REG_ALARM_PDM_EAT_ERROR	I	IR	15515	0	1	Internal extract air temperature sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_PDM_EAT_ALARM	I	IR	15516	0	3	Internal extract air temperature sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_PDM_EAT_CLEAR_ALARM	I	HR	15517	0	1	Internal extract air temperature sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_PDM_EAT_ERROR_DURATION_COUNTER	I	IR	15521	0		Alarm counter value.
REG_ALARM_PDM_EAT_TIMESTAMP_L	I	IR	15605	0	65536	Timestamp of internal extract air temperature sensor alarm, lower 16 bits.
REG_ALARM_PDM_EAT_TIMESTAMP_H	I	IR	15606	0	65536	Timestamp of internal extract air temperature sensor alarm, higher 16 bits.

11.3 Relative humidity sensor alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_PDM_RHS_ERROR	I	IR	15508	0	1	Internal relative humidity sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_PDM_RHS_ALARM	I	IR	15509	0	3	Internal relative humidity sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_PDM_RHS_CLEAR_ALARM	I	HR	15510	0	1	Internal relative humidity sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_PDM_RHS_ERROR_DURATION_COUNTER	I	IR	15514	0		Alarm counter value.
REG_ALARM_PDM_RHS_TIMESTAMP_L	I	IR	15603	0	65536	Timestamp of internal relative humidity sensor alarm, lower 16 bits.
REG_ALARM_PDM_RHS_TIMESTAMP_H	I	IR	15604	0	65536	Timestamp of internal relative humidity sensor alarm, higher 16 bits

12 Filter information

12.1 Replacement time

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FILTER_PERIOD	I	HR	7001	3	15	Filter replacement time in months.
REG_FILTER_REPLACEMENT_TIME_L	I	IR	7002	0	65536	Timestamp of latest filter replacement, lower 16 bits.
REG_FILTER_REPLACEMENT_TIME_H	I	IR	7003	0	65536	Timestamp of latest filter replacement, higher 16 bits.
REG_FILTER_REMAINING_TIME_L	I	IR	7005	0	65536	Remaining filter time in seconds, lower 16 bits.
REG_FILTER_REMAINING_TIME_H	I	IR	7006	0	65536	Remaining filter time in seconds, higher 16 bits.

12.2 Filter alarm data

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_FILTER_ERROR	I	IR	15141	0	1	Filter alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_FILTER_ALARM	I	IR	15142	0	3	Filter alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_FILTER_CLEAR_ALARM	I	HR	15143	0	1	Filter alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_FILTER_ERROR_DURATION_COUNTER	I	IR	15147	0		Alarm counter value.
REG_ALARM_FILTER_TIMESTAMP_L	I	IR	15341	0	65536	Timestamp of filter alarm, lower 16 bits.
REG_ALARM_FILTER_TIMESTAMP_H	I	IR	15342	0	65536	Timestamp of filter alarm, higher 16 bits.
REG_ALARM_FILTER_WARNING_ERROR	I	IR	15543	0	1	Filter warning alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_FILTER_WARNING_ALARM	I	IR	15544	0	3	Filter warning alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_FILTER_WARNING_CLEAR_ALARM	I	HR	15545	0	1	Filter warning alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_FILTER_WARNING_ALARM_ERROR_DURATION_COUNTER	I	IR	15549	0		Alarm counter value.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_FILTER_WARNING_TIME-STAMP_L	I	IR	15611	0	65536	Timestamp of filter warning alarm, lower 16 bits.
REG_ALARM_FILTER_WARNING_TIME-STAMP_H	I	IR	15612	0	65536	Timestamp of filter warning alarm, higher 16 bits.

13 Time settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_TIME_YEAR	I	HR	6001	0	2999	Current year.
REG_TIME_MONTH	I	HR	6002	1	12	Current month.
REG_TIME_DAY	I	HR	6003	1	31	Current day.
REG_TIME_HOUR	I	HR	6004	0	23	Current hour.
REG_TIME_MINUTE	I	HR	6005	0	59	Current minute.
REG_TIME_SECOND	I	HR	6006	0	59	Current second.
REG_TIME_AUTO_SUM_WIN	I	HR	6007	0	1	Daylight saving status: 0: Disabled 1: Enabled
REG_HOUR_FORMAT	I	HR	6008	0	1	Hour format 0: 24H 1: 12H

13.1 Time indication

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DAY_OF_THE_WEEK	I	IR	6009	0	6	Day of the week: 0: Monday 1: Tuesday 2: Wednesday 3: Thursday 4: Friday 5: Saturday 6: Sunday
REG_SYSTEM_START_UP_TIME_L	I	IR	6021			Ventilation unit operation time from power up, lower 16 bits, s.
REG_SYSTEM_START_UP_TIME_H	I	IR	6022			Ventilation unit operation time from power up, higher 16 bits, s.

14 Functions

14.1 ECO mode

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ECO_MODE_ACTIVE	I	IR	2521	0	1	Operation mode of ECO mode: 0 - Inactive 1 - Active
REG_ECO_FUNCTION_ACTIVE	I	IR	2506			ECO mode status: 0 - Inactive 1 - Active
REG_ECO_T_Y1_OFFSET	I	HR	2504	0	100	Supply air temperature decrease during ECO mode.
REG_ECO_MODE_ON_OFF	I	HR	2505	0	1	ECO mode status: 0 - Disabled 1 - Enabled

14.2 Demand control

14.2.1 Demand control status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEMC_ENABLED	I	IR	1061	0	1	Status of demand control: 0: Disabled 1: Enabled
REG_IAQ_LEVEL	I	IR	1123	0	2	Indoor air quality: 0: Perfect 1: Good 2: Improving
REG_DEMC_ACTIVE_CONTROLLER	I	IR	1004	0	1	Sensor type by which demand control function is operating: 0: CO_2 1: RH
REG_DEMC_FAN_SPEED	I	IR	1003	0	65536	Supply air fan speed by demand control function.
REG_DEMC_FAN_SPEED_EAF	I	IR	1007	0	65536	Extract air fan speed by demand control function.
REG_SUMMER_WINTER_STATE	I	IR	1038	0	2	Demand control mode by season: 0: Summer 1: Winter 2: Identifying
REG_SUMMER_WINTER_RESTART_COUNTER_L	I	IR	1036	0	65536	Demand control summer mode counter. Time till summer mode becomes active, lower 16 bits.
REG_SUMMER_WINTER_RESTART_COUNTER_H	I	IR	1037	0	65536	Demand control summer mode counter. Time till summer mode becomes active, higher 16 bits.

14.2.2 Fan speed settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_IAQ_SPEED_LEVEL_MIN	I	HR	1121	2	3	Minimum fan speed for demand control function: 2: Low 3: Normal
REG_IAQ_SPEED_LEVEL_MAX	I	HR	1122	3	5	Maximum fan speed for demand control function: 3: Normal 4: High 5: Maximum

14.2.3 Relative humidity settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEMC_RH_SETTINGS_ON_OFF	I	HR	1035	0	1	Activation of demand control by relative humidity: 0: Disabled 1: Enabled
REG_DEMC_RH_SETTINGS_SP_SUMMER	I	HR	1033	10	100	Summer relative humidity setpoint, %.
REG_DEMC_RH_SETTINGS_SP_WINTER	I	HR	1034	10	100	Winter relative humidity setpoint, %.
REG_DEMC_RH_SETTINGS_PBAND	I	HR	1031	1	100	Demand control by RH P-band setting value, %.
REG_DEMC_RH_SETTINGS_ITIME	I	HR	1032	0	120	Demand control by RH I-time setting value, s.

14.2.4 External Relative humidity sensor data

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEMC_RH_HIGHEST	I	IR	1001	0	100	Highest relative humidity value among all sensors, %.
REG_SENSOR_MODBUS_RHS	I	HR	12114	0	100	Modbus register for relative humidity sensor value input, %.
REG_SENSOR_RHS_1	I	IR	12161	0	100	External relative humidity sensor connected on universal input 1 value, %.
REG_SENSOR_RHS_2	I	IR	12162	0	100	External relative humidity sensor connected on universal input 2 value, %.
REG_SENSOR_RHS_3	I	IR	12163	0	100	External relative humidity sensor connected on universal input 3 value, %.
REG_SENSOR_RHS_4	I	IR	12164	0	100	External relative humidity sensor connected on universal input 4 value, %.
REG_SENSOR_RHS_5	I	IR	12165	0	100	External relative humidity sensor connected on universal input 5 value, %.
REG_SENSOR_RHS_6	I	IR	12166	0	100	External relative humidity sensor connected on universal input 6 value, %.

External Relative humidity sensor alarm data

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_RH_ERROR	I	IR	15162	0	1	External relative humidity sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_RH_ALARM	I	IR	15163	0	3	External relative humidity sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_RH_CLEAR_ALARM	I	HR	15164	0	1	External relative humidity sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_RH_ERROR_DURATION_COUNTER	I	IR	15168	0		Alarm counter value. Represents how long alarm activation condition is valid.
REG_ALARM_RH_TIMESTAMP_L	I	IR	15347	0	65536	Timestamp of external relative humidity sensor alarm, lower 16 bits.
REG_ALARM_RH_TIMESTAMP_H	I	IR	15348	0	65536	Timestamp of external relative humidity sensor alarm, higher 16 bits.

14.2.5 CO2 sensor settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEMC_CO2_SETTINGS_ON_OFF	I	HR	1044	0	1	Activation of demand control by CO2: 0: Disabled 1: Enabled
REG_DEMC_CO2_SETTINGS_SP	I	HR	1043	100	2000	CO2 setpoint, %.
REG_DEMC_CO2_SETTINGS_PBAND	I	HR	1041	50	2000	Demand control by CO2 P-band setting value, %.
REG_DEMC_CO2_SETTINGS_ITIME	I	HR	1042	0	120	Demand control by CO2 I-time setting value, s.

14.2.6 External CO2 sensor data

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_DEMC_CO2_HIGHEST	I	IR	1002	0	2000	Highest CO_2 value among all sensors, ppm.
REG_SENSOR_MODBUS_CO2	I	HR	12113	0	2000	Modbus register for CO2 sensor value input, ppm.
REG_SENSOR_CO2S_1	I	IR	12151	0	2000	External CO2 sensor connected on universal input 1 value, ppm.
REG_SENSOR_CO2S_2	I	IR	12152	0	2000	External CO2 sensor connected on universal input 2 value, ppm.
REG_SENSOR_CO2S_3	I	IR	12153	0	2000	External CO2 sensor connected on universal input 3 value, ppm.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_SENSOR_CO2S_4	I	IR	12154	0	2000	External CO2 sensor connected on universal input 4 value, ppm.
REG_SENSOR_CO2S_5	I	IR	12155	0	2000	External CO2 sensor connected on universal input 5 value, ppm.
REG_SENSOR_CO2S_6	I	IR	12156	0	2000	External CO2 sensor connected on universal input 6 value, ppm.

14.2.7 External CO2 sensor alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_CO2_ERROR	I	IR	15169	0	1	External CO_2 sensor alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_CO2_ALARM	I	IR	15170	0	3	External CO_2 sensor alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_CO2_CLEAR_ALARM	I	HR	15171	0	1	External CO_2 sensor alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_CO2_ERROR_DURATION_COUNTER	I	IR	15175	0		Alarm counter value. Represents how long alarm activation condition is valid.
REG_ALARM_CO2_TIMESTAMP_L	I	IR	15349	0	65536	Timestamp of external CO_2 sensor alarm, lower 16 bits.
REG_ALARM_CO2_TIMESTAMP_H	I	IR	15350	0	65536	Timestamp of external CO_2 sensor alarm, higher 16 bits.

14.3 Week schedule

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_WS_RUNNING_UNSCHEDULED	I	IR	14310	0	1	Week schedule unscheduled period digital output status: 0 - Inactive 1 - Active
REG_OUTPUT_WS_RUNNING_SCHEDULED	I	IR	14311	0	1	Week schedule scheduled period digital output status: 0 - Inactive 1 - Active

14.3.1 Fan speed settings

Value **Off** only allowed if contents of register 1353 has value of 1. Value **Demand** only allowed if contents of register 1035 or 1044 has value of 1.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_WS_FAN_LEVEL_SCHEDULED	I	HR	5060	0	6	Fan speed during active week schedule period: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum 6: Demand
REG_WS_FAN_LEVEL_UNSCHEDULED	I	HR	5061	0	6	Fan speed during inactive week schedule period: 0: Off 1: Minimum 2: Low 3: Normal 4: High 5: Maximum 6: Demand

14.3.2 Temperature adjustment settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_WS_T_OFFSET_ACTIVE	I	HR	5001	0	65436	Temperature setpoint decrease for active week schedule period.
REG_WS_T_OFFSET_INACTIVE	I	HR	5002	0	65436	Temperature setpoint decrease for inactive week schedule period.

14.3.3 Period adjustments

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_WS_DAY1_PRD1_START_H	I	HR	5003	0	23	Monday period 1 start hour, h.
REG_WS_DAY1_PRD1_START_M	I	HR	5004	0	59	Monday period 1 start minute, min.
REG_WS_DAY1_PRD1_END_H	I	HR	5005	0	23	Monday period 1 end hour, h.
REG_WS_DAY1_PRD1_END_M	I	HR	5006	0	59	Monday period 1 end minute, min.
REG_WS_DAY1_PRD2_START_H	I	HR	5007	0	23	Monday period 2 start hour, h.
REG_WS_DAY1_PRD2_START_M	I	HR	5008	0	59	Monday period 2 start minute, min.
REG_WS_DAY1_PRD2_END_H	I	HR	5009	0	23	Monday period 2 end hour, h.
REG_WS_DAY1_PRD2_END_M	I	HR	5010	0	59	Monday period 2 end minute, min.
REG_WS_DAY2_PRD1_START_H	I	HR	5011	0	23	Tuesday period 1 start hour, h.
REG_WS_DAY2_PRD1_START_M	I	HR	5012	0	59	Tuesday period 1 start minute, min.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_WS_DAY2_PRD1_END_H	I	HR	5013	0	23	Tuesday period 1 end hour, h.
REG_WS_DAY2_PRD1_END_M	I	HR	5014	0	59	Tuesday period 1 end minute, min.
REG_WS_DAY2_PRD2_START_H	I	HR	5015	0	23	Tuesday period 2 start hour, h.
REG_WS_DAY2_PRD2_START_M	I	HR	5016	0	59	Tuesday period 2 start minute, min.
REG_WS_DAY2_PRD2_END_H	I	HR	5017	0	23	Tuesday period 2 end hour, h.
REG_WS_DAY2_PRD2_END_M	I	HR	5018	0	59	Tuesday period 2 end minute, min.
REG_WS_DAY3_PRD1_START_H	I	HR	5019	0	23	Wednesday period 1 start hour, h.
REG_WS_DAY3_PRD1_START_M	I	HR	5020	0	59	Wednesday period 1 start minute, min.
REG_WS_DAY3_PRD1_END_H	I	HR	5021	0	23	Wednesday period 1 end hour, h.
REG_WS_DAY3_PRD1_END_M	I	HR	5022	0	59	Wednesday period 1 end minute, min.
REG_WS_DAY3_PRD2_START_H	I	HR	5023	0	23	Wednesday period 2 start hour, h.
REG_WS_DAY3_PRD2_START_M	I	HR	5024	0	59	Wednesday period 2 start minute, min.
REG_WS_DAY3_PRD2_END_H	I	HR	5025	0	23	Wednesday period 2 end hour, h.
REG_WS_DAY3_PRD2_END_M	I	HR	5026	0	59	Wednesday period 2 end minute, min.
REG_WS_DAY4_PRD1_START_H	I	HR	5027	0	23	Thursday period 1 start hour, h.
REG_WS_DAY4_PRD1_START_M	I	HR	5028	0	59	Thursday period 1 start minute, min.
REG_WS_DAY4_PRD1_END_H	I	HR	5029	0	23	Thursday period 1 end hour, h.
REG_WS_DAY4_PRD1_END_M	I	HR	5030	0	59	Thursday period 1 end minute, min.
REG_WS_DAY4_PRD2_START_H	I	HR	5031	0	23	Thursday period 2 start hour, h.
REG_WS_DAY4_PRD2_START_M	I	HR	5032	0	59	Thursday period 2 start minute, min.
REG_WS_DAY4_PRD2_END_H	I	HR	5033	0	23	Thursday period 2 end hour, h.
REG_WS_DAY4_PRD2_END_M	I	HR	5034	0	59	Thursday period 2 end minute, min.
REG_WS_DAY5_PRD1_START_H	I	HR	5035	0	23	Friday period 1 start hour, h.
REG_WS_DAY5_PRD1_START_M	I	HR	5036	0	59	Friday period 1 start minute, min.
REG_WS_DAY5_PRD1_END_H	I	HR	5037	0	23	Friday period 1 end hour, h.
REG_WS_DAY5_PRD1_END_M	I	HR	5038	0	59	Friday period 1 end minute, min.
REG_WS_DAY5_PRD2_START_H	I	HR	5039	0	23	Friday period 2 start hour, h.
REG_WS_DAY5_PRD2_START_M	I	HR	5040	0	59	Friday period 2 start minute, min.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_WS_DAY5_PRD2_END_H	I	HR	5041	0	23	Friday period 2 end hour, h.
REG_WS_DAY5_PRD2_END_M	I	HR	5042	0	59	Friday period 2 end minute, min.
REG_WS_DAY6_PRD1_START_H	I	HR	5043	0	23	Saturday period 1 start hour, h.
REG_WS_DAY6_PRD1_START_M	I	HR	5044	0	59	Saturday period 1 start minute, min.
REG_WS_DAY6_PRD1_END_H	I	HR	5045	0	23	Saturday period 1 end hour, h.
REG_WS_DAY6_PRD1_END_M	I	HR	5046	0	59	Saturday period 1 end minute, min.
REG_WS_DAY6_PRD2_START_H	I	HR	5047	0	23	Saturday period 2 start hour, h.
REG_WS_DAY6_PRD2_START_M	I	HR	5048	0	59	Saturday period 2 start minute, min.
REG_WS_DAY6_PRD2_END_H	I	HR	5049	0	23	Saturday period 2 end hour, h.
REG_WS_DAY6_PRD2_END_M	I	HR	5050	0	59	Saturday period 2 end minute, min.
REG_WS_DAY7_PRD1_START_H	I	HR	5051	0	23	Sunday period 1 start hour, h.
REG_WS_DAY7_PRD1_START_M	I	HR	5052	0	59	Sunday period 1 start minute, min.
REG_WS_DAY7_PRD1_END_H	I	HR	5053	0	23	Sunday period 1 end hour, h.
REG_WS_DAY7_PRD1_END_M	I	HR	5054	0	59	Sunday period 1 end minute, min.
REG_WS_DAY7_PRD2_START_H	I	HR	5055	0	23	Sunday period 2 start hour, h.
REG_WS_DAY7_PRD2_START_M	I	HR	5056	0	59	Sunday period 2 start minute, min.
REG_WS_DAY7_PRD2_END_H	I	HR	5057	0	23	Sunday period 2 end hour, h.
REG_WS_DAY7_PRD2_END_M	I	HR	5058	0	59	Sunday period 2 end minute, min.

14.4 Outdoor air compensation

14.4.1 Function status & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_OUTDOOR_COMP_RESULT	I	IR	1255			Outdoor air compensation result. Value depends on contents of register 1274. Value can be %, RPM, Pressure or Flow.
REG_FAN_OUTDOOR_COMP_TYPE	I	HR	1251	0	1	Outdoor air compensation type: 0: Supply air fan only 1: Both fans

14.4.2 Winter period settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_OUTDOOR_COMP_VALUE_WINTER	I	HR	1252	0	50	Maximum fan speed decrease during winter.
REG_FAN_OUTDOOR_COMP_STOP_T_WINTER	I	HR	1254	150	65136	Temperature setting at which outdoor air compensation should stop at winter time.
REG_FAN_OUTDOOR_COMP_START_T_WINTER	I	HR	1256	150	65136	Temperature setting at which outdoor air compensation should start at winter time.

14.4.3 Summer period settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FAN_OUTDOOR_COMP_START_T_SUMMER	I	HR	1257	150	500	Temperature setting at which outdoor air compensation should start at summer time
REG_FAN_OUTDOOR_COMP_STOP_T_SUMMER	I	HR	1258	150	500	Temperature setting at which outdoor air compensation should stop at summer time
REG_FAN_OUTDOOR_COMP_VALUE_SUMMER	I	HR	1259	0	50	Maximum fan speed decrease during summer

14.5 Free cooling function

14.5.1 Function status & settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_FREE_COOLING	I	IR	3102	0	1	Free cooling function status: 0 - Inactive; 1 - Active
REG_FREE_COOLING_STATE	I	IR	4114	0	3	Free cooling state: 0 - Disabled; 1 - Enabled; 2 - Daytime; 3 - Temperatures are not reliable
REG_FREE_COOLING_BLOCK_Y1_COUNTER	I	IR	4119	0	3600	Time for heating block after free cooling.
REG_FREE_COOLING_RELIABLE_TEMPERATURES	I	IR	4120	0	1	Reliable temperature status: 0 - Not reliable; 1 - Reliable
REG_FREE_COOLING_ON_OFF	I	HR	4101	0	1	Free cooling status: 0 - Disabled; 1 - Enabled

14.5.2 Fan speed settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FREE_COOLING_MIN_SPEED_LEVEL_SAF	I	HR	4112	3	5	Supply air fan speed during active free cooling function: 3: Normal 4: High 5: Maximum
REG_FREE_COOLING_MIN_SPEED_LEVEL_EAF	I	HR	4113	3	5	Extract air fan speed during active free cooling function: 3: Normal 4: High 5: Maximum

14.5.3 Temperature settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FREE_COOLING_OUTDOOR_NIGHTTIME_DEACTIVATION_HIGH_T_LIMIT	I	HR	4103	70	300	Outdoor activation low limit.
REG_FREE_COOLING_OUTDOOR_NIGHTTIME_DEACTIVATION_LOW_T_LIMIT	I	HR	4104	70	300	Outdoor activation high limit.
REG_FREE_COOLING_ROOM_CANCEL_T	I	HR	4105	120	300	Extract/Room cancel temperature.

14.5.4 Time settings

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FREE_COOLING_START_TIME_H	I	HR	4106	21	8	Free cooling start time, h. Hours input range is from 21 to 8 hours.
REG_FREE_COOLING_START_TIME_M	I	HR	4107	0	59	Free cooling start time, minutes.
REG_FREE_COOLING_END_TIME_H	I	HR	4108		8	Free cooling end time, h. The end time should be later than the start time. Lowest value is equal to start time hour setting or higher.
REG_FREE_COOLING_END_TIME_M	I	HR	4109	0	59	Free cooling end time, minutes. The end time should be later than the start time.

14.6 Moisture transfer control

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_MOISTURE_TRANSFER	I	IR	3107	0	1	Moisture transfer function status: 0 - Inactive; 1 - Active
REG_ROTOR_RH_TRANSFER_CTRL_SETPOINT	I	HR	2203	1	100	Moisture transfer control function setpoint.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ROTOR_RH_TRANSFER_CTRL_ON_OFF	I	HR	2204	0	1	Moisture transfer control function status: 0 - Disabled; 1 - Enabled
REG_ROTOR_RH_TRANSFER_CTRL_PBAND	I	HR	2201	1	1000	Moisture transfer control P-band value.
REG_ROTOR_RH_TRANSFER_CTRL_ITIME	I	HR	2202	0	120	Moisture transfer control I-time value, s.

14.7 Cooling recovery

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_FUNCTION_ACTIVE_COOLING_RECOVERY	I	IR	3106	0	1	Cooling recovery function status: 0 - Inactive; 1 - Active
REG_HEAT_EXCHANGER_COOLING_RECOVERY_ON_OFF	I	HR	2134	0	1	Cooling recovery function status: 0 - Disabled; 1 - Enabled
REG_COOLER_RECOVERY_LIMIT_T	I	HR	2315	0	100	Minimum temperature difference between extract and outside air temperatures to start cooling recovery function.

14.8 Passive house

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_PASSIVE_HOUSE_ACTIVATION	I	HR	2263	0	1	Passive house function status: 0 - Disabled; 1 - Enabled

15 Mainboard connection status

15.1 Digital output status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_DO1	I	IR	14361	0	1	Digital output 1 status: 0 - Inactive 1 - Active
REG_OUTPUT_DO2	I	IR	14362	0	1	Digital output 2 status: 0 - Inactive 1 - Active
REG_OUTPUT_DO3	I	IR	14363	0	1	Digital output 3 status: 0 - Inactive 1 - Active
REG_OUTPUT_DO4	I	IR	14364	0	1	Digital output 4 status: 0 - Inactive 1 - Active

15.2 Analog output status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_AO1_AFTER_MUX	I	IR	13311	0	100	Analog output 1 value, %.
REG_AO2_AFTER_MUX	I	IR	13312	0	100	Analog output 2 value, %.
REG_AO3_AFTER_MUX	I	IR	13313	0	100	Analog output 3 value, %.
REG_AO4_AFTER_MUX	I	IR	13314	0	100	Analog output 4 value, %.
REG_AO5_AFTER_MUX	I	IR	13315	0	100	Analog output 5 value, %.
REG_OUTPUT_AO1	I	IR	14351	0	10000	Analog output 1 value, mV.
REG_OUTPUT_AO2	I	IR	14352	0	10000	Analog output 2 value, mV.
REG_OUTPUT_AO3	I	IR	14353	0	10000	Analog output 3 value, mV.
REG_OUTPUT_AO4	I	IR	14354	0	10000	Analog output 4 value, mV.
REG_OUTPUT_AO5	I	IR	14355	0	10000	Analog output 5 value, mV.

15.3 Digital input status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_INPUT_DIGITAL_UI_1	I	IR	12021	0	1	Digital universal input 1 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_UI_2	I	IR	12022	0	1	Digital universal input 2 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_UI_3	I	IR	12023	0	1	Digital universal input 3 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_UI_4	I	IR	12024	0	1	Digital universal input 4 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_UI_5	I	IR	12025	0	1	Digital universal input 5 status: 0 - Inactive 1 - Active

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_INPUT_DIGITAL_UI_6	I	IR	12026	0	1	Digital universal input 6 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_DI_1	I	IR	12031	0	1	Digital input 1 status: 0 - Inactive 1 - Active
REG_INPUT_DIGITAL_DI_2	I	IR	12032	0	1	Digital input 2 status: 0 - Inactive 1 - Active

15.4 Analog input status

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_INPUT_ANALOG_UI_1	I	IR	12011	0	10000	Analog universal input 1 value, mV.
REG_INPUT_ANALOG_UI_2	I	IR	12012	0	10000	Analog universal input 2 value, mV.
REG_INPUT_ANALOG_UI_3	I	IR	12013	0	10000	Analog universal input 3 value, mV.
REG_INPUT_ANALOG_UI_4	I	IR	12014	0	10000	Analog universal input 4 value, mV.
REG_INPUT_ANALOG_UI_5	I	IR	12015	0	10000	Analog universal input 5 value, mV.
REG_INPUT_ANALOG_UI_6	I	IR	12016	0	10000	Analog universal input 6 value, mV.

16 Alarms

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_OUTPUT_ALARM	I	IR	14003	0	1	Alarm output status: 0 - Inactive 1 - Active
REG_OUTPUT_UNIT_STATUS_OK	I	IR	14309	0	1	Digital output for unit status: 0 - Active alarms detected 1 - Unit status OK
REG_ALARM_TYPE_A	I	IR	15901	0	1	Indicates if an alarm Type A is active: 0: No active Type A alarm 1: Active Type A alarm Frost protection; Frost protection temperature sensor; Defrosting error; Supply air fan feedback; Extract air fan feedback; Supply air fan control error; Extract air fan control error; Fire alarm; Low supply air temperature alarm.
REG_ALARM_TYPE_B	I	IR	15902	0	1	Indicates if an alarm Type B is active: 0: No active alarm 1: Active alarm Emergency thermostat; Bypass damper; Rotor guard; Outdoor air temperature sensor; Overheat temperature sensor; Supply air temperature sensor; Room air temperature sensor; Extract air temperature sensor; Extra controller temperature sensor; Efficiency temperature sensor; In-built relative humidity sensor; In-built extract air temperature sensor; Extra controller alarm; Bypass damper feedback.
REG_ALARM_TYPE_C	I	IR	15903	0	1	Indicates if an alarm Type C is active: 0: No active alarm 1: Active alarm Filter; External stop; Heater overheat; External CO_2 sensor; External relative humidity sensor; Filter warning.
REG_ALARM_CLEAR_ALL	I	HR	15905	0	1	Clears all active alarms: 1: Clear all active alarms
REG_ALARM_AMOUNT_ACTIVE	I	IR	15906	0	65536	Number of active alarms.
REG_ALARM_MODBUS_SUM	I	IR	15907	0	2	Any alarm indication: 0 – Not supported 1 – No active alarms 2 – Active alarm
REG_ALARM_LOW_SAT_ENABLED	I	HR	15910	0	1	Low supply air temperature alarm monitoring status: 0 – Not monitored 1 – Alarm conditions monitored.

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_EXTERNAL_STOP_ERROR	I	IR	15155	0	1	External stop alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_EXTERNAL_STOP_ALARM	I	IR	15156	0	3	External stop alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_EXTERNAL_STOP_CLEAR_ALARM	I	HR	15157	0	1	External stop alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_EXTERNAL_STOP_ERROR_DURATION_COUNTER	I	IR	15161	0		Alarm counter value. Represents how long alarm is active.
REG_ALARM_EXTERNAL_STOP_TIMESTAMP_L	I	IR	15345	0	65536	Timestamp of external stop alarm, lower 16 bits.
REG_ALARM_EXTERNAL_STOP_TIMESTAMP_H	I	IR	15346	0	65536	Timestamp of external stop alarm, higher 16 bits.
REG_ALARM_FIRE_ALARM_ERROR	I	IR	15536	0	1	Fire alarm return status: 0 - Returned 1 - Not returned
REG_ALARM_FIRE_ALARM_ALARM	I	IR	15537	0	3	Fire alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_FIRE_ALARM_CLEAR_ALARM	I	HR	15538	0	1	Fire alarm clearing: 0 - Do nothing 1 - Clear alarm
REG_ALARM_FIRE_ALARM_ERROR_DURATION_COUNTER	I	IR	15542	0		Alarm counter value. Represents how long alarm is active.
REG_ALARM_FIRE_ALARM_TIMESTAMP_L	I	IR	15353	0	65536	Timestamp of fire alarm, lower 16 bits.
REG_ALARM_FIRE_ALARM_TIMESTAMP_H	I	IR	15354	0	65536	Timestamp of fire alarm, higher 16 bits.

16.1 Alarm history

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_1_ID	I	IR	15701	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_1_STATE_NOW	I	IR	15702	0	3	Alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_1_YEAR	I	IR	15704	0	65536	Year when alarm occurred
REG_ALARM_LOG_1_MONTH	I	IR	15705	0	65536	Month when alarm occurred
REG_ALARM_LOG_1_DAY	I	IR	15706	0	65536	Day when alarm occurred
REG_ALARM_LOG_1_HOUR	I	IR	15707	0	65536	Hour when alarm occurred
REG_ALARM_LOG_1_MINUTE	I	IR	15708	0	65536	Minute when alarm occurred
REG_ALARM_LOG_1_SECOND	I	IR	15709	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_2_ID	I	IR	15711	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_2_STATE_NOW	I	IR	15712	0	3	Alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_2_YEAR	I	IR	15714	0	65536	Year when alarm occurred
REG_ALARM_LOG_2_MONTH	I	IR	15715	0	65536	Month when alarm occurred
REG_ALARM_LOG_2_DAY	I	IR	15716	0	65536	Day when alarm occurred
REG_ALARM_LOG_2_HOUR	I	IR	15717	0	65536	Hour when alarm occurred
REG_ALARM_LOG_2_MINUTE	I	IR	15718	0	65536	Minute when alarm occurred
REG_ALARM_LOG_2_SECOND	I	IR	15719	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_3_ID	I	IR	15721	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_3_STATE_NOW	I	IR	15722	0	3	Alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_3_YEAR	I	IR	15724	0	65536	Year when alarm occurred
REG_ALARM_LOG_3_MONTH	I	IR	15725	0	65536	Month when alarm occurred
REG_ALARM_LOG_3_DAY	I	IR	15726	0	65536	Day when alarm occurred
REG_ALARM_LOG_3_HOUR	I	IR	15727	0	65536	Hour when alarm occurred
REG_ALARM_LOG_3_MINUTE	I	IR	15728	0	65536	Minute when alarm occurred
REG_ALARM_LOG_3_SECOND	I	IR	15729	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_4_ID	I	IR	15731	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_4_STATE_NOW	I	IR	15732	0	3	Alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_4_YEAR	I	IR	15734	0	65536	Year when alarm occurred
REG_ALARM_LOG_4_MONTH	I	IR	15735	0	65536	Month when alarm occurred
REG_ALARM_LOG_4_DAY	I	IR	15736	0	65536	Day when alarm occurred
REG_ALARM_LOG_4_HOUR	I	IR	15737	0	65536	Hour when alarm occurred
REG_ALARM_LOG_4_MINUTE	I	IR	15738	0	65536	Minute when alarm occurred
REG_ALARM_LOG_4_SECOND	I	IR	15739	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_5_ID	I	IR	15741	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_5_STATE_NOW	I	IR	15742	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_5_YEAR	I	IR	15744	0	65536	Year when alarm occurred
REG_ALARM_LOG_5_MONTH	I	IR	15745	0	65536	Month when alarm occurred
REG_ALARM_LOG_5_DAY	I	IR	15746	0	65536	Day when alarm occurred
REG_ALARM_LOG_5_HOUR	I	IR	15747	0	65536	Hour when alarm occurred
REG_ALARM_LOG_5_MINUTE	I	IR	15748	0	65536	Minute when alarm occurred
REG_ALARM_LOG_5_SECOND	I	IR	15749	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_6_ID	I	IR	15751	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_6_STATE_NOW	I	IR	15752	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_6_YEAR	I	IR	15754	0	65536	Year when alarm occurred
REG_ALARM_LOG_6_MONTH	I	IR	15755	0	65536	Month when alarm occurred
REG_ALARM_LOG_6_DAY	I	IR	15756	0	65536	Day when alarm occurred
REG_ALARM_LOG_6_HOUR	I	IR	15757	0	65536	Hour when alarm occurred
REG_ALARM_LOG_6_MINUTE	I	IR	15758	0	65536	Minute when alarm occurred
REG_ALARM_LOG_6_SECOND	I	IR	15759	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_7_ID	I	IR	15761	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_7_STATE_NOW	I	IR	15762	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_7_YEAR	I	IR	15764	0	65536	Year when alarm occurred
REG_ALARM_LOG_7_MONTH	I	IR	15765	0	65536	Month when alarm occurred
REG_ALARM_LOG_7_DAY	I	IR	15766	0	65536	Day when alarm occurred
REG_ALARM_LOG_7_HOUR	I	IR	15767	0	65536	Hour when alarm occurred
REG_ALARM_LOG_7_MINUTE	I	IR	15768	0	65536	Minute when alarm occurred
REG_ALARM_LOG_7_SECOND	I	IR	15769	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_8_ID	I	IR	15771	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_8_STATE_NOW	I	IR	15772	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_8_YEAR	I	IR	15774	0	65536	Year when alarm occurred
REG_ALARM_LOG_8_MONTH	I	IR	15775	0	65536	Month when alarm occurred
REG_ALARM_LOG_8_DAY	I	IR	15776	0	65536	Day when alarm occurred
REG_ALARM_LOG_8_HOUR	I	IR	15777	0	65536	Hour when alarm occurred
REG_ALARM_LOG_8_MINUTE	I	IR	15778	0	65536	Minute when alarm occurred
REG_ALARM_LOG_8_SECOND	I	IR	15779	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_9_ID	I	IR	15781	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_9_STATE_NOW	I	IR	15782	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_9_YEAR	I	IR	15784	0	65536	Year when alarm occurred
REG_ALARM_LOG_9_MONTH	I	IR	15785	0	65536	Month when alarm occurred
REG_ALARM_LOG_9_DAY	I	IR	15786	0	65536	Day when alarm occurred
REG_ALARM_LOG_9_HOUR	I	IR	15787	0	65536	Hour when alarm occurred
REG_ALARM_LOG_9_MINUTE	I	IR	15788	0	65536	Minute when alarm occurred
REG_ALARM_LOG_9_SECOND	I	IR	15789	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_10_ID	I	IR	15791	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_10_STATE_NOW	I	IR	15792	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_10_YEAR	I	IR	15794	0	65536	Year when alarm occurred
REG_ALARM_LOG_10_MONTH	I	IR	15795	0	65536	Month when alarm occurred
REG_ALARM_LOG_10_DAY	I	IR	15796	0	65536	Day when alarm occurred
REG_ALARM_LOG_10_HOUR	I	IR	15797	0	65536	Hour when alarm occurred
REG_ALARM_LOG_10_MINUTE	I	IR	15798	0	65536	Minute when alarm occurred
REG_ALARM_LOG_10_SECOND	I	IR	15799	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_11_ID	I	IR	15801	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_11_STATE_NOW	I	IR	15802	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_11_YEAR	I	IR	15804	0	65536	Year when alarm occurred
REG_ALARM_LOG_11_MONTH	I	IR	15805	0	65536	Month when alarm occurred
REG_ALARM_LOG_11_DAY	I	IR	15806	0	65536	Day when alarm occurred
REG_ALARM_LOG_11_HOUR	I	IR	15807	0	65536	Hour when alarm occurred
REG_ALARM_LOG_11_MINUTE	I	IR	15808	0	65536	Minute when alarm occurred
REG_ALARM_LOG_11_SECOND	I	IR	15809	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_12_ID	I	IR	15811	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_12_STATE_NOW	I	IR	15812	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_12_YEAR	I	IR	15814	0	65536	Year when alarm occurred
REG_ALARM_LOG_12_MONTH	I	IR	15815	0	65536	Month when alarm occurred
REG_ALARM_LOG_12_DAY	I	IR	15816	0	65536	Day when alarm occurred
REG_ALARM_LOG_12_HOUR	I	IR	15817	0	65536	Hour when alarm occurred
REG_ALARM_LOG_12_MINUTE	I	IR	15818	0	65536	Minute when alarm occurred
REG_ALARM_LOG_12_SECOND	I	IR	15819	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_13_ID	I	IR	15821	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_13_STATE_NOW	I	IR	15822	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_13_YEAR	I	IR	15824	0	65536	Year when alarm occurred
REG_ALARM_LOG_13_MONTH	I	IR	15825	0	65536	Month when alarm occurred
REG_ALARM_LOG_13_DAY	I	IR	15826	0	65536	Day when alarm occurred
REG_ALARM_LOG_13_HOUR	I	IR	15827	0	65536	Hour when alarm occurred
REG_ALARM_LOG_13_MINUTE	I	IR	15828	0	65536	Minute when alarm occurred
REG_ALARM_LOG_13_SECOND	I	IR	15829	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_14_ID	I	IR	15831	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_14_STATE_NOW	I	IR	15832	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_14_YEAR	I	IR	15834	0	65536	Year when alarm occurred
REG_ALARM_LOG_14_MONTH	I	IR	15835	0	65536	Month when alarm occurred
REG_ALARM_LOG_14_DAY	I	IR	15836	0	65536	Day when alarm occurred
REG_ALARM_LOG_14_HOUR	I	IR	15837	0	65536	Hour when alarm occurred
REG_ALARM_LOG_14_MINUTE	I	IR	15838	0	65536	Minute when alarm occurred
REG_ALARM_LOG_14_SECOND	I	IR	15839	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_15_ID	I	IR	15841	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_15_STATE_NOW	I	IR	15842	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_15_YEAR	I	IR	15844	0	65536	Year when alarm occurred
REG_ALARM_LOG_15_MONTH	I	IR	15845	0	65536	Month when alarm occurred
REG_ALARM_LOG_15_DAY	I	IR	15846	0	65536	Day when alarm occurred
REG_ALARM_LOG_15_HOUR	I	IR	15847	0	65536	Hour when alarm occurred
REG_ALARM_LOG_15_MINUTE	I	IR	15848	0	65536	Minute when alarm occurred
REG_ALARM_LOG_15_SECOND	I	IR	15849	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_16_ID	I	IR	15851	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_16_STATE_NOW	I	IR	15852	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_16_YEAR	I	IR	15854	0	65536	Year when alarm occurred
REG_ALARM_LOG_16_MONTH	I	IR	15855	0	65536	Month when alarm occurred
REG_ALARM_LOG_16_DAY	I	IR	15856	0	65536	Day when alarm occurred
REG_ALARM_LOG_16_HOUR	I	IR	15857	0	65536	Hour when alarm occurred
REG_ALARM_LOG_16_MINUTE	I	IR	15858	0	65536	Minute when alarm occurred
REG_ALARM_LOG_16_SECOND	I	IR	15859	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_17_ID	I	IR	15861	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_17_STATE_NOW	I	IR	15862	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_17_YEAR	I	IR	15864	0	65536	
REG_ALARM_LOG_17_MONTH	I	IR	15865	0	65536	Month when alarm occurred
REG_ALARM_LOG_17_DAY	I	IR	15866	0	65536	Day when alarm occurred
REG_ALARM_LOG_17_HOUR	I	IR	15867	0	65536	Hour when alarm occurred
REG_ALARM_LOG_17_MINUTE	I	IR	15868	0	65536	Minute when alarm occurred
REG_ALARM_LOG_17_SECOND	I	IR	15869	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_18_ID	I	IR	15871	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_18_STATE_NOW	I	IR	15872	0	3	Status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_18_YEAR	I	IR	15874	0	65536	Year when alarm occurred
REG_ALARM_LOG_18_MONTH	I	IR	15875	0	65536	Month when alarm occurred
REG_ALARM_LOG_18_DAY	I	IR	15876	0	65536	Day when alarm occurred
REG_ALARM_LOG_18_HOUR	I	IR	15877	0	65536	Hour when alarm occurred
REG_ALARM_LOG_18_MINUTE	I	IR	15878	0	65536	Minute when alarm occurred
REG_ALARM_LOG_18_SECOND	I	IR	15879	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_19_ID	I	IR	15881	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_19_STATE_NOW	I	IR	15882	0	3	Alarm status: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_19_YEAR	I	IR	15884	0	65536	Year when alarm occurred
REG_ALARM_LOG_19_MONTH	I	IR	15885	0	65536	Month when alarm occurred
REG_ALARM_LOG_19_DAY	I	IR	15886	0	65536	Day when alarm occurred
REG_ALARM_LOG_19_HOUR	I	IR	15887	0	65536	Hour when alarm occurred
REG_ALARM_LOG_19_MINUTE	I	IR	15888	0	65536	Minute when alarm occurred
REG_ALARM_LOG_19_SECOND	I	IR	15889	0	65536	Second when alarm occurred

Name	Signal type	Modbus register type	Modbus register number	Min value	Max value	Description
REG_ALARM_LOG_20_ID	I	IR	15891	0	34	Alarm type: 0 - Frost protection; 1 - Frost protection temperature sensor; 2 - Defrosting error; 3 - Supply air fan feedback; 4 - Extract air fan feedback; 5 - Supply air fan conrol error; 6 - Extract air fan control error; 7 - Emergency thermostat; 8 - Plate heat exchanger bypass damper; 9 - Rotary heat exchanger rotation guard; 10 - Secondary air damper; 11 - Outdoor air temperature sensor; 12 - Overheat temperature sensor; 13 - Supply air temperature sensor; 14 - Room air temperature sensor; 15 - Extract air temperature sensor; 16 - Extra controller temperature sensor; 17 - Efficiency temperature sensor; 18 - Inbuilt relative humidity sensor; 19 - Inbuilt extract air temperature sensor; 20 - Filter; 21 - Extra controller alarm; 22 - External stop; 23 - Manual fan stop; 24 - Heater overheat; 25 - Low supply air temperature; 26 - External CO2 sensor; 27 - External relative humidity sensor; 28 - Manual output mode; 29 - Fire alarm; 30 - Filter warning; 34 - Bypass damper feedback.
REG_ALARM_LOG_20_STATE_NOW	I	IR	15892	0	3	Alarm statuss: 0 - Inactive 1 - Active 2 - Counter increasing 3 - Acknowledged
REG_ALARM_LOG_20_YEAR	I	IR	15894	0	65536	Year when alarm occurred
REG_ALARM_LOG_20_MONTH	I	IR	15895	0	65536	Month when alarm occurred
REG_ALARM_LOG_20_DAY	I	IR	15896	0	65536	Day when alarm occurred
REG_ALARM_LOG_20_HOUR	I	IR	15897	0	65536	Hour when alarm occurred
REG_ALARM_LOG_20_MINUTE	I	IR	15898	0	65536	Minute when alarm occurred
REG_ALARM_LOG_20_SECOND	I	IR	15899	0	65536	Second when alarm occurred

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Document in original language

2026-08-24

Rev 2.1 - 004