

## 1 Information

MODBUS is a serial communication protocol used for transmitting information over serial lines between electronic devices. The device requesting the information is called the Master and the devices supplying information are Slaves.

The official MODBUS Application Protocol Specification can be found at <http://www.modbus.org/>

### MODBUS register tables

Information is stored in the Slave device in two different tables, which store numerical values (registers). The coils and registers each have a read-only table and read-write table.

Reference	Type		Description
3x	Input Register	R	Analog Input Registers
4x	Holding Register	RW	Analog Output/ Holding Registers

**NOTE:** Register vs. address numbering

The registers are not addressed starting at zero. Therefore numbered registers are equal to address.

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## 2 Demand Control

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_DEMC_RH_HIGHEST	3x1000	Input		100		Highest value of all valid RH sensors	Highest RH value of all configured RH sensors	1
REG_DEMC_CO2_HIGHEST	3x1001	Input		20000		Highest value of all valid CO2 sensors	Highest CO2 value of all configured CO2 sensors	1
REG_DEMC_FAN_SPEED	3x1002	Input		(1)		Fan speed desired by Demand control	(1): value depends on regulation type, set by register XXX	1
REG_DEMC_ACTIVE_CONTROLLER	3x1003	Input	0	1	CO2/RH	RH or CO2 used for demand control		1
REG_DEMC_RH_SETTINGS_SP_SUMMER	4x1032	Holding	10	100		Set point setting for RH demand control during (temperature based) winter time		1
REG_DEMC_RH_SETTINGS_SP_WINTER	4x1033	Holding	10	100		Set point setting for RH demand control during (temperature based) summer time		1
REG_SUMMER_WINTER	3x1038	Input	0	1	SUMMER/WINTER	Indication of which season is active, depending on OAT temperature		1
REG_DEMC_CO2_SETTINGS_SP	4x1042	Holding	100	2000		Set point setting for CO2 demand control		1
REG_IAQ_LEVEL	3x1122	Input	0	2	Economic/Good/Improving	Determines IAQ level indoors		1

## 3 User Modes

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_USERMODE_HOLIDAY_TIME	4x1100	Holding	1	365	1	Active time for user mode Holiday		1
REG_USERMODE_AWAY_TIME	4x1101	Holding	1	72	1	Active time for user mode Away		1
REG_USERMODE_FIREPLACE_TIME	4x1102	Holding	1	60	1	Active time for user mode Fire Place		1
REG_USERMODE_REFRESH_TIME	4x1103	Holding	1	240	5	Active time for user mode Refresh		1
REG_USERMODE_CROWDED_TIME	4x1104	Holding	1	8	1	Active time for user mode Crowded		1
REG_USERMODE_REMAINING_TIME_L	3x1110	Input				Remaining time for the state Holiday/Away/Fire Place/Refresh/Crowded		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_USERMODE_MODE	4x3-x1160	Input	0	8	Auto/Manual/Crowded/Refresh/Fireplace/Away/Holiday/Cooker Hood/Vacuum Cleaner	Active User mode		1
REG_USERMODE_HMI_CHANGE_REQUEST	4x1161	Holding	0	7	None/Auto/Manual/Crowded/Refresh/Fireplace/Away/Holiday	Changing of active user mode	UserModeHMIchangeRequest	
REG_SPEED_CROWDED_SAF	3x1204	Input				SAF speed value for user mode Crowded	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_CROWDED_EAF	3x1205	Input				EAF speed value for user mode Crowded	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_REFRESH_SAF	3x1206	Input				SAF speed value for user mode Refresh	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_REFRESH_EAF	3x1207	Input				EAF speed value for user mode Refresh	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_FIREPLACE_SAF	3x1208	Input				SAF speed value for user mode Fire Place	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_FIREPLACE_EAF	3x1209	Input				EAF speed value for user mode Fire Place	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_AWAY_SAF	3x1210	Input				SAF speed value for user mode Away	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_AWAY_EAF	3x1211	Input				EAF speed value for user mode Away	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SPEED_HOLIDAY_SAF	3x1212	Input				SAF speed value for user mode Holiday	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_HOLIDAY_EAF	3x1213	Input				EAF speed value for user mode Holiday	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_COOKERHOOD_SAF	3x1214	Input				SAF speed value for mode Cooker Hood	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_COOKERHOOD_EAF	3x1215	Input				EAF speed value for mode Cooker Hood	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_VACUUMCLEANER_SAF	3x1216	Input				SAF speed value for mode Vacuum Cleaner	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_VACUUMCLEANER_EAF	3x1217	Input				EAF speed value for mode Vacuum Cleaner	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_FOR_USER_MODE_SAF	3x1230	Input				SAF speed value for the active user mode	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_FOR_USER_MODE_EAF	3x1231	Input				EAF speed value for the active user mode	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1

## 4 Airflow Control

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_USERMODE_MANUAL_AIRFLOW_LEVEL_SAF	4x1130	Holding	1	4	Off(1)/Low/Normal/High	Fan speed level for mode Manual, supply fan	(1): value Off only allowed if contents of register REG_FAN_MANUAL_STOP_ALLOWED is 1.	1
REG_SPEED_MANUAL_SAF	3x1200	Input			Off(1)/Low/Normal/High	SAF speed value for user mode Manual	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_MANUAL_EAF	3x1201	Input				EAF speed value for user mode Manual	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_AUTO_SAF	3x1202	Input				SAF speed value for user mode Auto	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_AUTO_EAF	3x1203	Input				EAF speed value for user mode Auto	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_LOW_SPEED_SAF	3x1218	Input				SAF speed value for low fan speed	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_SPEED_LOW_SPEED_EAF	3x1219	Input				EAF speed value for low fan speed	(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1
REG_FAN_REGULATION_UNIT	4x1273	Holding	0	4	Manual %/Manual RPM/Pressure/Flow/External	Type of fan speed regulation.	Type of fan speed regulation (% , RPM, Flow or Pressure)	1
REG_FAN_MANUAL_STOP_ALLOWED	4x1352	Holding	0	1		0: Manual stop not allowed 1: Manual stop allowed		1
REG_SAF_STOPPED	3x1354	Input	0	1		Indicates if the control signal to the SAF is 0		1
REG_EAF_STOPPED	3x1355	Input	0	1		Indicates if the control signal to the EAF is 0		1
REG_INPUT_EXTERNAL_CTRL_SAF	3x2100	Input	0	100		Value from External Controller Input, SAF	In %.	1
REG_INPUT_EXTERNAL_CTRL_EAF	3x2101	Input	0	100		Value from External Controller Input, EAF	In %.	1

## 5 Outdoor Airflow Compensation

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_FAN_OUTDOOR_COMP_MAX_VALUE	4x1251	Holding	0	50	1	Compensation value at lowest temperature.		1
REG_FAN_OUTDOOR_COMP_MAX_TEMP	4x1253	Holding	-250	0	10	Temperature at which highest compensation is applied.		0,1
REG_FAN_OUTDOOR_COMP_RESULT	3x1254	Input					(1): Depends on regulation type. Value can be %, RPM, Pressure or Flow	1

## 6 Heater Cool Down

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SPEED_ELECTRICAL_HEATER_HOT	3x1353	Input	0	1		Indicates if the electrical heater is still hot		1
REG_SPEED_ELECTRICAL_HEATER_HOT_COUNTER	3x1356	Input				Indicates if the control signal to the EAF is 0		1

## 7 Temperature Control

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_TC_SP	4x2000	Holding	120	300	10	Temperature setpoint for the supply air temperature		0,1
REG_TC_CASCADE_SP	4x2012	Holding	120	400	10	Set point setting for regulating the setpoint for the SATC		0,1
REG_TC_CASCADE_SP_MIN	4x2020	Holding	120	400	10	Minimum temperature set point for the SATC		0,1
REG_TC_CASCADE_SP_MAX	4x2021	Holding	120	400	10	Maximum temperature set point for the SATC		0,1
REG_TC_CONTROL_MODE	4x2030	Holding	0	2	SATC/RATC/EATC	0: Supply 1: Room 2: Extract		1
REG_HEAT_EXCHANGER_FROM_SATC	3x2140	Input				Heat exchanger signal		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_COOLER_RECOVERY_LIMIT_T	4x2314	Holding				Temperature difference between EAT and OAT at which cooling recovery is allowed		0,1
REG_COOLER_OAT_INTERLOCK_T	4x2315	Holding				Temperature at which cooling is interlocked		0,1

## 8 Circulation Pump Control

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_HEATER_CIRC_PUMP_START_T	4x2112	Holding	0	200	10	Temperature at which the pump is started		0,1
REG_HEATER_CIRC_PUMP_STOP_DELAY	4x2121	Holding	1	60	1	Extra time when stop conditions for the pump have matched		1
REG_COOLER_CIRC_PUMP_STOP_DELAY	4x2316	Holding		60	1	Extra time when stop conditions for the pump have matched		1
REG_COOLER_CIRC_PUMP_COUNTER	3x2317	Input		3600	1			1
REG_EXTRA_CONTROLLER_CIRC_PUMP_START_T	4x2403	Holding		200	10	Start temperature for circulation pump		0,1
REG_EXTRA_CONTROLLER_CIRC_PUMP_STOP_DELAY	4x2404	Holding		60	1	Temperature at which the pump is started		1
REG_EXTRA_CONTROLLER_CIRC_PUMP_COUNTER	3x2418	Input		3600	1			1
REG_CHANGE_OVER_CIRC_PUMP_START_T	4x2450	Holding		60	1	Start temperature for circulation pump		1
REG_CHANGE_OVER_CIRC_PUMP_STOP_DELAY	4x2451	Holding		60	1	Temperature at which the pump is started		1
REG_CHANGE_OVER_CIRC_PUMP_COUNTER	3x2452	Input		3600	1			1

## 9 Cooling Recovery

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_HEAT_EXCHANGER_COOLING_RECOVERY_ON_OFF	4x2133	Holding	0	1		Enabling of cooling recovery		1
REG_WARM_KEEPING_SET_PI_SP	4x2162	Holding				Set point value for the warm keeping PI regulator		0,1
REG_FROST_PROTECTION_SET_PI_SP	4x2182	Holding			10	Set point value for the frost protection PI regulator		0,1

## 10 Moisture Transfer Control

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ROTOR_RH_TRANSFER_CTRL_SETPOINT	4x2202	Holding	1	100		Set point setting for RH transfer control		1
REG_ROTOR_EA_SPEC_HUMIDITY	3x2210	Input				Calculated specific humidity of the Extract Air		1
REG_ROTOR_OA_SPEC_HUMIDITY	3x2211	Input				Calculated specific humidity of the Outdoor Air		1
REG_ROTOR_EA_SPEC_HUMIDITY_SETPOINT	3x2212	Input				Calculated specific humidity of the Extract Air Setpoint		1

## 11 Extra Controller

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_EXTRA_CONTROLLER_SET_PI_SETPOINT	4x2402	Holding	-300	400	10	Set point value for the extra controller PI regulator		0,1



## 12 ECO Mode

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ECO_T_Y1_OFFSET	4x2503	Holding		100	10	Temperature offset for heating during Eco mode		0,1
REG_ECO_MODE_ON_OFF	4x2504	Holding		1		Enabling of eco mode		1

## 13 Free Cooling

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_FREE_COOLING_ON_OFF	4x4100	Holding		1		Indicates if free cooling is enabled		1
REG_FREE_COOLING_ACTIVE	3x4110	Input	0	1	Off/On	Indicates if free cooling is being performed		1

## 14 Week Schedule

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_WS_T_OFFSET_ACTIVE	4x5000	Holding	-100			Temperature offset during active week schedule.		0,1
REG_WS_T_OFFSET_INACTIVE	4x5001	Holding	-100			Temperature offset during inactive week schedule.		0,1
REG_WS_DAY1_PRD1_START_H	4x5002	Holding		23	1	Monday, Period 1, start		1
REG_WS_DAY1_PRD1_START_M	4x5003	Holding		59	1			1
REG_WS_DAY1_PRD1_END_H	4x5004	Holding		23	1	Monday, Period 1, end		1
REG_WS_DAY1_PRD1_END_M	4x5005	Holding		59	1			1
REG_WS_DAY1_PRD2_START_H	4x5006	Holding		23	1	Monday, Period 2, start		1
REG_WS_DAY1_PRD2_START_M	4x5007	Holding		59	1			1
REG_WS_DAY1_PRD2_END_H	4x5008	Holding		23	1	Monday, Period 2, end		1
REG_WS_DAY1_PRD2_END_M	4x5009	Holding		59	1			1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_WS_DAY2_PRD1_START_H	4x5010	Holding		23	1	Tuesday, Period 1, start		1
REG_WS_DAY2_PRD1_START_M	4x5011	Holding		59	1			1
REG_WS_DAY2_PRD1_END_H	4x5012	Holding		23	1	Tuesday, Period 1, end		1
REG_WS_DAY2_PRD1_END_M	4x5013	Holding		59	1			1
REG_WS_DAY2_PRD2_START_H	4x5014	Holding		23	1	Tuesday, Period 2, start		1
REG_WS_DAY2_PRD2_START_M	4x5015	Holding		59	1			1
REG_WS_DAY2_PRD2_END_H	4x5016	Holding		23	1	Tuesday, Period 2, end		1
REG_WS_DAY2_PRD2_END_M	4x5017	Holding		59	1			1
REG_WS_DAY3_PRD1_START_H	4x5018	Holding		23	1	Wednesday, Period 1, start		1
REG_WS_DAY3_PRD1_START_M	4x5019	Holding		59	1			1
REG_WS_DAY3_PRD1_END_H	4x5020	Holding		23	1	Wednesday, Period 1, end		1
REG_WS_DAY3_PRD1_END_M	4x5021	Holding		59	1			1
REG_WS_DAY3_PRD2_START_H	4x5022	Holding		23	1	Wednesday, Period 2, start		1
REG_WS_DAY3_PRD2_START_M	4x5023	Holding		59	1			1
REG_WS_DAY3_PRD2_END_H	4x5024	Holding		23	1	Wednesday, Period 2, end		1
REG_WS_DAY3_PRD2_END_M	4x5025	Holding		59	1			1
REG_WS_DAY4_PRD1_START_H	4x5026	Holding		23	1	Thursday, Period 1, start		1
REG_WS_DAY4_PRD1_START_M	4x5027	Holding		59	1			1
REG_WS_DAY4_PRD1_END_H	4x5028	Holding		23	1	Thursday, Period 1, end		1
REG_WS_DAY4_PRD1_END_M	4x5029	Holding		59	1			1
REG_WS_DAY4_PRD2_START_H	4x5030	Holding		23	1	Thursday, Period 2, start		1
REG_WS_DAY4_PRD2_START_M	4x5031	Holding		59	1			1
REG_WS_DAY4_PRD2_END_H	4x5032	Holding		23	1	Thursday, Period 2, end		1
REG_WS_DAY4_PRD2_END_M	4x5033	Holding		59	1			1
REG_WS_DAY5_PRD1_START_H	4x5034	Holding		23	1	Friday, Period 1, start		1
REG_WS_DAY5_PRD1_START_M	4x5035	Holding		59	1			1
REG_WS_DAY5_PRD1_END_H	4x5036	Holding		23	1	Friday, Period 1, end		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_WS_DAY5_PRD1_END_M	4x5037	Holding		59	1			1
REG_WS_DAY5_PRD2_START_H	4x5038	Holding		23	1	Friday, Period 2, start		1
REG_WS_DAY5_PRD2_START_M	4x5039	Holding		59	1			1
REG_WS_DAY5_PRD2_END_H	4x5040	Holding		23	1	Friday, Period 2, end		1
REG_WS_DAY5_PRD2_END_M	4x5041	Holding		59	1			1
REG_WS_DAY6_PRD1_START_H	4x5042	Holding		23	1	Saturday, Period 1, start		1
REG_WS_DAY6_PRD1_START_M	4x5043	Holding		59	1			1
REG_WS_DAY6_PRD1_END_H	4x5044	Holding		23	1	Saturday, Period 1, end		1
REG_WS_DAY6_PRD1_END_M	4x5045	Holding		59	1			1
REG_WS_DAY6_PRD2_START_H	4x5046	Holding		23	1	Saturday, Period 2, start		1
REG_WS_DAY6_PRD2_START_M	4x5047	Holding		59	1			1
REG_WS_DAY6_PRD2_END_H	4x5048	Holding		23	1	Saturday, Period 2, end		1
REG_WS_DAY6_PRD2_END_M	4x5049	Holding		59	1			1
REG_WS_DAY7_PRD1_START_H	4x5050	Holding		23	1	Sunday, Period 1, start		1
REG_WS_DAY7_PRD1_START_M	4x5051	Holding		59	1			1
REG_WS_DAY7_PRD1_END_H	4x5052	Holding		23	1	Sunday, Period 1, end		1
REG_WS_DAY7_PRD1_END_M	4x5053	Holding		59	1			1
REG_WS_DAY7_PRD2_START_H	4x5054	Holding		23	1	Sunday, Period 2, start		1
REG_WS_DAY7_PRD2_START_M	4x5055	Holding		59	1			1
REG_WS_DAY7_PRD2_END_H	4x5056	Holding		23	1	Sunday, Period 2, end		1
REG_WS_DAY7_PRD2_END_M	4x5057	Holding		59	1			1
REG_WS_FAN_LEVEL_SCHEDULED	4x5059	Holding		6	Off(1)/Low/Normal/High/ Demand(2)	Fan speed levels for SAF and EAF during active week schedule	(1): Off available if Manual Fan Stop is enabled. (2): Demand available if demand control active or external fan control enabled.	1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_WS_FAN_LEVEL_UNSCHEMUL	4x5060	Holding		6	Off(1)/Low/Normal/High/Demand(2)	Fan speed levels for SAF and EAF during inactive week schedule	(1): Off available if Manual Fan Stop is enabled. (2): Demand available if demand control active or external fan control enabled.	1
REG_WS_ON_OFF	4x5062	Holding		1		Not used		1
REG_WS_DAY1_PRD1_ENABLED	4x5100	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY1_PRD2_ENABLED	4x5101	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY2_PRD1_ENABLED	4x5102	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY2_PRD2_ENABLED	4x5103	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY3_PRD1_ENABLED	4x5104	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY3_PRD2_ENABLED	4x5105	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY4_PRD1_ENABLED	4x5106	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY4_PRD2_ENABLED	4x5107	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY5_PRD1_ENABLED	4x5108	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY5_PRD2_ENABLED	4x5109	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY6_PRD1_ENABLED	4x5110	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY6_PRD2_ENABLED	4x5111	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY7_PRD1_ENABLED	4x5112	Holding		1	1	Flag indicating if this period is enabled.		1
REG_WS_DAY7_PRD2_ENABLED	4x5113	Holding		1	1	Flag indicating if this period is enabled.		1

## 15 Time Settings

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_TIME_YEAR	4x6000	Holding		2999	1	Current time		1
REG_TIME_MONTH	4x6001	Holding	1	12	1	Current time		1
REG_TIME_DAY	4x6002	Holding	1	31	1	Current time		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_TIME_HOUR	4x6003	Holding		23	1	Current time		1
REG_TIME_MINUTE	4x6004	Holding		59	1	Current time		1
REG_TIME_SECOND	4x6005	Holding		59	1	Current time		1
REG_TIME_AUTO_SUM_WIN	4x6006	Holding		1		Flag indicating if DST is enabled	0: Daylight saving time not enabled 1: Daylight saving time enabled	1
REG_HOUR_FORMAT	4x6007	Holding		1	24H/12H	Indicates the presentation of time in the HMI		1
REG_DAY_OF_THE_WEEK	6008	Input		6	Monday...Sunday			1
REG_DST_PERIOD_ACTIVE	6009	Input		1				1
REG_TIME_RTC_SECONDS_L	6010	Input				Now time in seconds. Lower 16 bits.		1
REG_TIME_RTC_SECONDS_H	6011	Input				Now time in seconds. Higher 16 bits.		1

## 16 Filter replacement

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_FILTER_PERIOD	4x7000	Holding	3	15		Filter replacement time in months		1
REG_FILTER_REPLACEMENT_TIME_L	4x7001	Holding				Timestamp of latest filter replcement, lower 16 bits		1
REG_FILTER_REPLACEMENT_TIME_H	4x7002	Holding				Timestamp of latest filter replcement, higher 16 bits		1
REG_FILTER_REMAINING_TIME_L	3x7004	Input				Remaining filter time in seconds, lower 16 bits.		1
REG_FILTER_REMAINING_TIME_H	3x7005	Input				Remaining filter time in seconds, higher 16 bits.		1

## 17 Analog Input Sensor Values

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SENSOR_FPT	3x12100	Input	-400	800		Frost Protection Temperature sensor		0,1
REG_SENSOR_OAT	3x12101	Input	-400	800		Outdoor Air Temperature sensor		0,1
REG_SENSOR_SAT	3x12102	Input	-400	800		Supply Air Temperature sensor		0,1
REG_SENSOR_RAT	3x12103	Input	-400	800		Room Air Temperature sensor		0,1
REG_SENSOR_EAT	3x12104	Input	-400	800		Extract Air Temperature sensor		0,1
REG_SENSOR_ECT	3x12105	Input	-400	800		Extra Controller Temperature sensor		0,1
REG_SENSOR_EFT	3x12106	Input	-400	800		Efficiency temperature sensor		0,1
REG_SENSOR_OHT	3x12107	Input	-400	800		Over Heat Temperature sensor		0,1
REG_SENSOR_RHS	3x12108	Input		100		Relative Humidity Sensor		1
REG_SENSOR_BYS	3x12109	Input		1		Bypass damper input		1
REG_SENSOR_EMT	3x12110	Input		1		Emergency thermostat input		1
REG_SENSOR_RGS	3x12111	Input		1		Rotating guard Sensor input		1
REG_SENSOR_MODBUS_CO2	4x12112	Holding						1
REG_SENSOR_MODBUS_RHS	4x12113	Holding		100				1
REG_SENSOR_CO2S	3x12114	Input						1
REG_SENSOR_RHS_PDM	3x12135	Input		100		PDM RHS sensor value.		1
REG_SENSOR_CO2S_1	3x12150	Input						1
REG_SENSOR_CO2S_2	3x12151	Input						1
REG_SENSOR_CO2S_3	3x12152	Input						1
REG_SENSOR_CO2S_4	3x12153	Input						1
REG_SENSOR_CO2S_5	3x12154	Input						1
REG_SENSOR_RHS_1	3x12160	Input						1
REG_SENSOR_RHS_2	3x12161	Input						1
REG_SENSOR_RHS_3	3x12162	Input						1
REG_SENSOR_RHS_4	3x12163	Input						1
REG_SENSOR_RHS_5	3x12164	Input						1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SENSOR_P_SAF	3x12200	Input						1
REG_SENSOR_P_EAF	3x12201	Input						1
REG_SENSOR_FLOW_SAF	3x12202	Input						1
REG_SENSOR_FLOW_EAF	3x12203	Input						1

## 18 Digital Input Values

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SENSOR_DI_AWAY	3x12300	Input		1		Away inputs value		1
REG_SENSOR_DI_HOLIDAY	3x12301	Input		1		Holiday input value		1
REG_SENSOR_DI_FIREPLACE	3x12302	Input		1		FirePlace input value		1
REG_SENSOR_DI_REHRESH	3x12303	Input		1		Refresh input value		1
REG_SENSOR_DI_CROWDED	3x12304	Input		1		Crowded input value		1
REG_SENSOR_DI_COOKERHOOD	3x12305	Input		1		CookerHood input value		1
REG_SENSOR_DI_VACUUMCLEANER	3x12306	Input		1		VacuumCleaner input value		1
REG_SENSOR_DI_EXTERNAL_STOP	3x12307	Input		1		ExternalStop input value		1
REG_SENSOR_DI_LOAD_DETECTED	3x12308	Input		1		LoadDetected input value		1
REG_SENSOR_DI_EXTRA_CONTROLLER_EMT	3x12309	Input		1		ExtraControllerEmergencyThermostatInput value		1
REG_SENSOR_DI_FIRE_ALARM	3x12310	Input		1		Fire Alarm input value		1
REG_SENSOR_DI_CHANGE_OVER_FEEDBACK	3x12311	Input		1				1

## 19 Output Values

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_SENSOR_RPM_SAF	3x12400	Input				SAF rpm value		1
REG_SENSOR_RPM_EAF	3x12401	Input				EAF rpm value		1
REG_SENSOR_PDM_EAT_VALUE	3x12543	Input				PDM EAT value		0,1
REG_OUTPUT_SAF	3x14000	Input		100		SAF fan speed		1
REG_OUTPUT_EAF	3x14001	Input		100		EAF fan speed		1
REG_OUTPUT_ALARM	3x14002	Input	0	1		0: Output not active 1: Output active	Sum Alarm output	1
REG_OUTPUT_OUTDOOR_EXTRACT_DAMPER	3x14003	Input		1				1
REG_OUTPUT_Y1_ANALOG	3x14100	Input		100		Y1 Heating analog output		1
REG_OUTPUT_Y1_DIGITAL	3x14101	Input		1		0: Output not active 1: Output active		1
REG_OUTPUT_TRIAC	3x14380	Input		100				1

## 20 Alarms

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ALARM_SAF_CTRL_ALARM	3x15001	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_SAF_CTRL_CLEAR_ALARM	4x15002	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EAF_CTRL_ALARM	3x15008	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EAF_CTRL_CLEAR_ALARM	4x15009	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_FROST_PROT_ALARM	3x15015	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_FROST_PROT_CLEAR_ALARM	4x15016	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_DEFROSTING_ALARM	3x15022	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_DEFROSTING_CLEAR_ALARM	4x15023	Holding	0	1		Signal to clear the alarm		1



Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ALARM_SAF_RPM_ALARM	3x15029	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_SAF_RPM_CLEAR_ALARM	4x15030	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EAF_RPM_ALARM	3x15036	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EAF_RPM_CLEAR_ALARM	4x15037	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_FPT_ALARM	3x15057	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_FPT_CLEAR_ALARM	4x15058	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_OAT_ALARM	3x15064	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_OAT_CLEAR_ALARM	4x15065	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_SAT_ALARM	3x15071	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_SAT_CLEAR_ALARM	4x15072	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_RAT_ALARM	3x15078	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_RAT_CLEAR_ALARM	4x15079	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EAT_ALARM	3x15085	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EAT_CLEAR_ALARM	4x15086	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_ECT_ALARM	3x15092	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_ECT_CLEAR_ALARM	4x15093	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EFT_ALARM	3x15099	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EFT_CLEAR_ALARM	4x15100	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_OHT_ALARM	3x15106	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_OHT_CLEAR_ALARM	4x15107	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EMT_ALARM	3x15113	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EMT_CLEAR_ALARM	4x15114	Holding	0	1		Signal to clear the alarm		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ALARM_RGS_ALARM	3x15120	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_RGS_CLEAR_ALARM	4x15121	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_BYS_ALARM	3x15127	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_BYS_CLEAR_ALARM	4x15128	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_SECONDARY_AIR_ALARM	3x15134	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_SECONDARY_AIR_CLEAR_ALARM	4x15135	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_FILTER_ALARM	3x15141	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_FILTER_CLEAR_ALARM	4x15142	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EXTRA_CONTROLLER_ALARM	3x15148	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EXTRA_CONTROLLER_CLEAR_ALARM	4x15149	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_EXTERNAL_STOP_ALARM	3x15155	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_EXTERNAL_STOP_CLEAR_ALARM	4x15156	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_RH_ALARM	3x15162	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_RH_CLEAR_ALARM	4x15163	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_CO2_ALARM	3x15169	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_CO2_CLEAR_ALARM	4x15170	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_LOW_SAT_ALARM	3x15176	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_LOW_SAT_CLEAR_ALARM	4x15177	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_MANUAL_OVERRIDE_OUTPUTS_ALARM	3x15501	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_MANUAL_OVERRIDE_OUTPUTS_CLEAR_ALARM	4x15502	Holding	0	1		Signal to clear the alarm		1

Symbolic register name	Register number	Modbus Register type	Min	Max	Step/choices	Description	Comments	Factor
REG_ALARM_PDM_RHS_ALARM	3x15508	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_PDM_RHS_CLEAR_ALARM	4x15509	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_PDM_EAT_ALARM	3x15515	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_PDM_EAT_CLEAR_ALARM	4x15516	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_MANUAL_FAN_STOP_ALARM	3x15522	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_MANUAL_FAN_STOP_CLEAR_ALARM	4x15523	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_OVERHEAT_TEMPERATURE_ALARM	3x15529	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_OVERHEAT_TEMPERATURE_CLEAR_ALARM	4x15530	Holding	0	1		Signal to clear the alarm		1
REG_ALARM_FIRE_ALARM_ALARM	3x15536	Input	0	3	Inactive/Active/Waiting/ ClearedErrorActive	Alarm active/inactive		1
REG_ALARM_FIRE_ALARM_CLEAR_ALARM	4x15537	Holding	0	1		Signal to clear the alarm		1