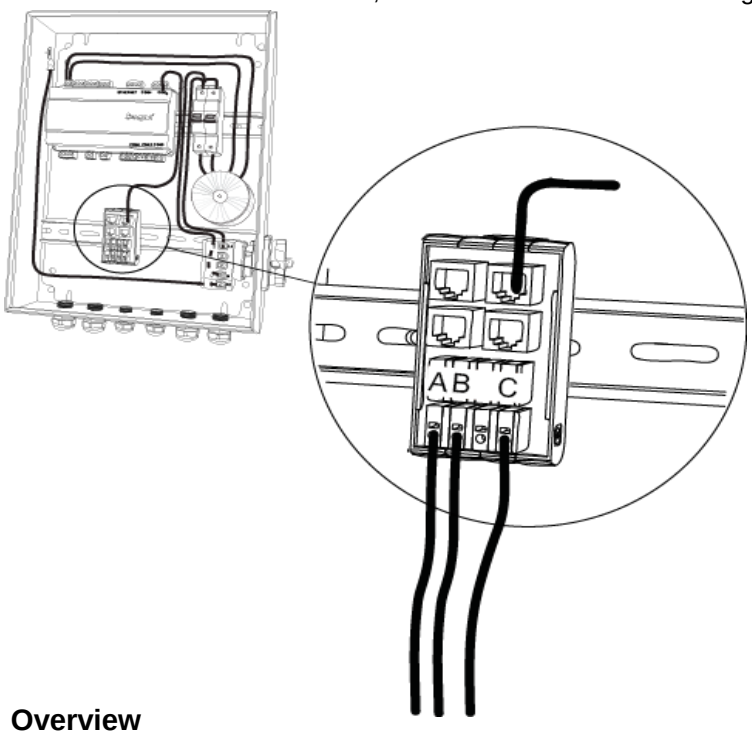
Modbus RTU/TCP

NESTOR, program version **1.2** and newer versions.

Updated 2014-04-07 AGn, all updates are marked with the SV <software version number> in the Misc column

NESTOR will be Modbus slave, and the data is available through the Ethernet port (E) via TCP/IP.



Overview

Modbus can access single addresses or multiple addresses simultaneously; either reading or writing single bit values or 16-bit values.

Modbus data format

Modbus data types are 16-bit values.

Modbus Type	Description	Reference
Coil Register	1-bit Input (write) Register	0x
Discrete Input Register	16-bit Output (read) Register	1x
Holding Register	16-bit Input (write) Register	4x
Input Register	16-bit Output (read) Register	3x

Modbus reference number are PLC address [Base 1]

Supported Modbus commands

The NESTOR unit supports the following Modbus commands.

Function code	Description
01	Read Coil Registers
02	Read Discrete Registers
03	Read Holding Registers
04	Read Input Registers
05	Preset Single Coil
06	Preset Single Holding
15	Preset Multiple Coil Registers
16	Preset Multiple Holding Registers

Coil Status. 1bit (R/W).

Modbus	Name	Min/Max	Misc
0x0001	**External Heat Source**	0-1	
	0 = Disables usage of external heat source 1 = Enables usage of external heat source		
0x0002	**External Cool Source**	0-1	
	0 = Disables usage of external cool source 1 = Enables usage of external cool source		
0x0003	**Zone Alarm Prio B**	0-1	
	0 = Sets alarm priority for Zone product alarms to A 1 = Sets alarm priority for Zone product alarms to B		
0x0004	**SPARE**		
0x0005	**Operation mode Digital Input NO/NC**	0-1	
	0 = NO 1 = NC		
0x0006	**AquaLink Activation**	0-1	
	0 = AcuaLink function activated 1 = AcuaLink function deactivated		
0x0007	**AquaLink Alarm NO/NC**	0-1	
	0 = NO 1 = NC		
0x0008	**EnableOpModeGold1**	0-1	
	0 = Disable Operation Mode for Gold 1 1 = Enable Operation Mode for Gold 1		
0x0009	**EnableOpModeGold2**	0-1	
	0 = Disable Operation Mode for Gold 2 1 = Enable Operation Mode for Gold 2		
0x0010	**EnableOpModeGold3**	0-1	
	0 = Disable Operation Mode for Gold 3 1 = Enable Operation Mode for Gold 3		
0x0011	**EnableOpModeGold4**	0-1	
	0 = Disable Operation Mode for Gold 4 1 = Enable Operation Mode for Gold 4		
0x0012	**EnableOpModeGold5**	0-1	
	0 = Disable Operation Mode for Gold 5 1 = Enable Operation Mode for Gold 5		
0x0013	**EnableOpModeGold6**	0-1	
	0 = Disable Operation Mode for Gold 6 1 = Enable Operation Mode for Gold 6		
0x0014	**EnableOpModeGold7**	0-1	
	0 = Disable Operation Mode for Gold 7 1 = Enable Operation Mode for Gold 7		
0x0015	**EnableOpModeGold8**	0-1	
	0 = Disable Operation Mode for Gold 8 1 = Enable Operation Mode for Gold 8		
0x0016	**Valid Internal Outdoor temp sensor Gold1**	0-1	
	0 = The internal outdoor sensor of Gold 1 does not measure a valid outdoor temperature (or Gold 1 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 1 measures a valid outdoor temperature		

Coil Status. 1bit (R/W).

Modbus	Name	Min/Max	Misc
0x0017	**Valid Internal Outdoor temp sensor Gold2**	0-1	
	0 = The internal outdoor sensor of Gold 2 does not measure a valid outdoor temperature (or Gold 2 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 2 measures a valid outdoor temperature		
0x0018	**Valid Internal Outdoor temp sensor Gold3**	0-1	
	0 = The internal outdoor sensor of Gold 3 does not measure a valid outdoor temperature (or Gold 3 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 3 measures a valid outdoor temperature		
0x0019	**Valid Internal Outdoor temp sensor Gold4**	0-1	
	0 = The internal outdoor sensor of Gold 4 does not measure a valid outdoor temperature (or Gold 4 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 4 measures a valid outdoor temperature		
0x0020	**Valid Internal Outdoor temp sensor Gold5**	0-1	
	0 = The internal outdoor sensor of Gold 5 does not measure a valid outdoor temperature (or Gold 5 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 5 measures a valid outdoor temperature		
0x0021	**Valid Internal Outdoor temp sensor Gold6**	0-1	
	0 = The internal outdoor sensor of Gold 6 does not measure a valid outdoor temperature (or Gold 6 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 6 measures a valid outdoor temperature		
0x0022	**Valid Internal Outdoor temp sensor Gold7**	0-1	
	0 = The internal outdoor sensor of Gold 7 does not measure a valid outdoor temperature (or Gold 7 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 7 measures a valid outdoor temperature		
0x0023	**Valid Internal Outdoor temp sensor Gold8**	0-1	
	0 = The internal outdoor sensor of Gold 8 does not measure a valid outdoor temperature (or Gold 8 shall not receive the system outdoor temperature). 1 = The internal outdoor sensor of Gold 8 measures a valid outdoor temperature		
0x0024	**Use System Outdoor temp in Gold1**	0-1	SV 1.01
	0 = Gold 1 shall NOT receive the system outdoor temperature. 1 = Gold 1 SHALL receive the system outdoor temperature.		
0x0025	**Use System Outdoor temp in Gold2**	0-1	SV 1.01
	0 = Gold 2 shall NOT receive the system outdoor temperature. 1 = Gold 2 SHALL receive the system outdoor temperature.		
0x0026	**Use System Outdoor temp in Gold3**	0-1	SV 1.01
	0 = Gold 3 shall NOT receive the system outdoor temperature. 1 = Gold 3 SHALL receive the system outdoor temperature.		
0x0027	**Use System Outdoor temp in Gold4**	0-1	SV 1.01
	0 = Gold 4 shall NOT receive the system outdoor temperature. 1 = Gold 4 SHALL receive the system outdoor temperature.		

Coil Status. 1bit (R/W).

Modbus	Name	Min/Max	Misc
0x0028	**Use System Outdoor temp in Gold5**	0-1	SV 1.01
	0 = Gold 5 shall NOT receive the system outdoor temperature. 1 = Gold 5 SHALL receive the system outdoor temperature.		
0x0029	**Use System Outdoor temp in Gold6**	0-1	SV 1.01
	0 = Gold 6 shall NOT receive the system outdoor temperature. 1 = Gold 6 SHALL receive the system outdoor temperature.		
0x0030	**Use System Outdoor temp in Gold7**	0-1	SV 1.01
	0 = Gold 7 shall NOT receive the system outdoor temperature. 1 = Gold 7 SHALL receive the system outdoor temperature.		
0x0031	**Use System Outdoor temp in Gold8**	0-1	SV 1.01
	0 = Gold 8 shall NOT receive the system outdoor temperature. 1 = Gold 8 SHALL receive the system outdoor temperature.		
0x0032	**Current water type NO/NC**	0-1	SV 1.01
	0 = DO5 indicates hot water when low and cold water when high 1 = DO5 indicates cold water when low and hot water when high		(moved from 0x24)
0x0033	**External heating demand activation**	0-1	SV 1.2
	0 = Disable function 1 = Enable function		
0x0034	**External cooling demand actvation**	0-1	SV 1.2
	0 = Disable function 1 = Enable function		
0x0035	**External heating demand NO/NC**	0-1	SV 1.2
	0 = NO (closed in put indicates heating demand) 1 = NC		
0x0036	**External cooling demand NO/NC**	0-1	SV 1.2
	0 = NO (closed in put indicates cooling demand) 1 = NC		
0x0037-0x0100	**SPARE**		
0x0101	**Port Active UserSet 0**	0-1	
	Gold 1 Connected		
…	**…**	…	…
0x0108	**Port Active UserSet 7**	0-1	
	Gold 8 Connected		
0x0109	**Port Active UserSet 8**	0-1	
	Super WISE 1 Connected		
…	**…**	…	…
0x01016	**Port Active UserSet 15**	0-1	
	Super WISE 8 Connected		
0x0117-0x0130	**SPARE**		
0x0131	**OH Enable Gold 1**	0-1	
	Enable connection of Ordinary heating sequence in Gold 1		
…	**…**	…	…
0x0138	**OH Enable Gold 8**	0-1	
	Enable connection of Ordinary heating sequence in Gold 8		
0x0139	**EH Enable Gold 1**	0-1	
	Enable connection of Extra heating sequence in Gold 1		
…	**…**	…	…
0x0146	**EH Enable Gold 8**	0-1	
	Enable connection of Extra heating sequence in Gold 8		
0x0147	**XH Enable Gold 1**	0-1	
	Enable connection of X-zone heating sequence in Gold 1		

Coil Status. 1bit (R/W).

Modbus	Name	Min/Max	Misc
…	…	…	…
0x0154	**XH Enable Gold 8**	0-1	
	Enable connection of X-zone heating sequence in Gold 8		
0x0155	**AYCH Enable Gold 1**	0-1	
	Enable connection of AYC heating sequence in Gold 1		
…	…	…	…
0x0162	**AYCH Enable Gold 8**	0-1	
	Enable connection of AYC heating sequence in Gold 8		
0x0163	**PH Enable Gold 1**	0-1	
	Enable connection of Pre-heating sequence in Gold 1		
…	…	…	…
0x0170	**PH Enable Gold 8**	0-1	
	Enable connection of Pre-heating sequence in Gold 8		
0x0171	**OC Enable Gold 1**	0-1	
	Enable connection of Ordinary cooling sequence in Gold 1		
…	…	…	…
0x0178	**OC Enable Gold 8**	0-1	
	Enable connection of Ordinary cooling sequence in Gold 8		
0x0179	**EC Enable Gold 1**	0-1	
	Enable connection of Extra cooling sequence in Gold 1		
…	…	…	…
0x0186	**EC Enable Gold 8**	0-1	
	Enable connection of Extra cooling sequence in Gold 8		
0x0187	**XC Enable Gold 1**	0-1	
	Enable connection of X-zone cooling sequence in Gold 1		
…	…	…	…
0x0194	**XC Enable Gold 8**	0-1	
	Enable connection of X-zone cooling sequence in Gold 8		
0x0195	**AYCC Enable Gold 1**	0-1	
	Enable connection of AYC cooling sequence in Gold 1		
…	…	…	…
0x0202	**AYCC Enable Gold 8**	0-1	
	Enable connection of AYC cooling sequence in Gold 8		
0x0203	**Enable optimization Gold 1**	0-1	
	Enable optimization for enabled sequences in Gold 1		
…	…	…	…
0x0210	**Enable optimization Gold 8**	0-1	
	Enable optimization for enabled sequences in Gold 8		

Input Status. 1bit (RO).

Modbus	Name	Min/Max	Misc
1x0001	**ExternalHeatActive**	0-1	
	1 = External heat active		
1x0002	**ExternalCoolActive**	0-1	
	1 = External cool active		
1x0003	**Time controlled output**	0-1	
	High when time channels for setting digital output is active		
1x0004	**Alarm notification oputut**	0-1	
	High when an alarm set to generate a digital output signal is active		
1x0005	**Current water type (Reversible Chiller mode)**	0-1	
	Indicates the current water type (0 for hot and 1 for cold if parameter PRM_CurrWatType_NONC is 0)		
1x0006	**Heat pump/Chiller Operation status**	0-1	SV 1.01
	0 = Off, 1 = On		
1x0007	**Defrost status**	0-1	SV 1.01
	0 = Inactive, 1 = Active		
1x0008	**Heat pump/Chiller Summary alarm level 1**	0-1	SV 1.01
	0 = Inactive, 1 = Active		
1x0009	**Heat pump/Chiller Summary alarm level 2**	0-1	SV 1.01
	0 = Inactive, 1 = Active		
1x0010	**Heat pump/Chiller Summary alarm level 3**	0-1	SV 1.01
	0 = Inactive, 1 = Active		
1x0011	**System Cooling Demand**	0-1	
	0 = No System Cooling demand 1 = System Cooling demand		
1x0012	**System Heating Demand**	0-1	
	0 = No System Heating demand 1 = System Heating demand		
1x0013	**SPARE**		
1x0014	**SPARE**		
1x0015	**Heat Limit Active**	0-1	
	1 = Heat limititation function active		
1x0016	**Aqualink Active**	0-1	
	1 = Aqua Link active		
1x0017	**Operation Mode Digital Input (DI1)**	0-1	
	Operation mode Digital Input (1=Activated)		
1x0018	**External heating demand input (DI2)**	0-1	SW 1.2
	Indicates if there is an external heating demand		
1x0019	**External cooling demand input (DI3)**	0-1	SW 1.2
	Indicates if there is an external cooling demand		
1x0020	**SPARE**		
1x0021	**Heating demand Gold 1**	0-1	
	Heating demand from Gold 1 present		
…	**…**	…	…
1x0028	**Heating demand Gold 8**	0-1	
	Heating demand from Gold 8 present		
1x0029	**Cooling demand Gold 1**	0-1	
	Cooling demand from Gold 1 present		
…	**…**	…	…

Input Status. 1bit (RO).

Modbus	Name	Min/Max	Misc
1x0036	**Cooling demand Gold 8**	0-1	
	Cooling demand from Gold 8 present		
1x0037	**Filtered external heating demand**	0-1	SW 1.2
	The external heating demand filtered using the heating activation delay.		
1x0038	**Filtered external cooling demand**	0-1	SW 1.2
	The external cooling demand filtered using the cooling activation delay.		
1x0039-1x0100	**SPARE**		
1x0101	**CMSL Alarm 1**	0-1	
	CMSL Alarm 1		
…	**…**	…	…
1x0128	**CMSL Alarm 28**	0-1	
	CMSL Alarm 28		

Input Registers. 16-bit integer value (RO).

Modbus	Name	Min/Max	Misc
3x0001	**System cooling setpoint**	-20.00-80.00°C	
	Total cooling setpoint		
3x0002	**System heating setpoint**	10.00-80.00°C	
	Total heating setpoint		
3x0003	**Supply water temperature**	-20.0-80.0°C	
	Supply water temperature		
3x0004	**Return water temperature**	-20.0-80.0°C	
	Return water temperature		
3x0005	**Current water type**	0-2	
	Current water type 0 = undefined 1 = Hot 2 = Cold		
3x0006	**Time since last cool/heat switch**	0-32767	
	Time since last cool/heat switch		
3x0007	**Heat limit outdoor temperature**	-20.00-80.00°C	
	Stored value of the outdoor temperature from when entering the heat limit mode		
3x0008	**Total supply air volume**	0-32000l/s	
	Total supply air volume		
3x0009	**Total extract air volume**	0-32000l/s	
	Total extract air volume		
3x0010	**Outdoor temperature**	-20.00-80.00°C	
	Outdoor temperature		
3x0011	**Operation mode**	0-6	
	Operation mode 0=Auto 1=Auto,NoCooling 2=LowSpeed 3=LowSpeed, NoCooling 4=HighSpeed 5=HighSpeed,NoCooling 6=Stop		
3x0012	**Number of active alarms**	0-200	
	Number of active alarms		
3x0013	**OutTempOriginUsed**	0-8	
	Outdoor temperature sensor used		
3x0014	**Heating set point Gold 1**	5.00-60.00°C	
	Heating set point for Gold 1		
…	**…**	…	…
3x0021	**Heating set point Gold 8**	5.00-60.00°C	
	Heating set point for Gold 8		
3x0022	**Cooling set point Gold 1**	-10.00-25.00°C	
	Cooling set point for Gold 1		
	…	…	…
3x0029	**Cooling set point Gold 8**	-10.00-25.00°C	
	Cooling set point for Gold 8		
3x0030	**SPARE**		
3x0031	**Chiller/Heat pump Outlet temperature circuit 1**	-20.0-80.0°C	SV 1.01
	Supply water temperature circuit 1		
3x0032	**Chiller/Heat pump Outlet temperature circuit 2**	-20.0-80.0°C	SV 1.01
	Supply water temperature circuit 2		

Input Registers. 16-bit integer value (RO).

Modbus	Name	Min/Max	Misc
3x0033	**Chiller/Heat pump Outlet temperature circuit 3**	-20.0-80.0°C	SV 1.01
	Supply water temperature circuit 3		
3x0034	**Chiller/Heat pump Outlet temperature circuit 4**	-20.0-80.0°C	SV 1.01
	Supply water temperature circuit 4		
3x0035	**Max cooling set point**	-20.0-80.0°C	SV 1.01
	Maximum value for the cooling set point		
3x0036	**Min cooling set point**	-20.0-80.0°C	SV 1.01
	Minimum value for the cooling set point		
3x0037	**Max heating set point**	-20.0-80.0°C	SV 1.01
	Maximum value for the heating set point		
3x0038	**Min heating set point**	-20.0-80.0°C	SV 1.01
	Minimum value for the heating set point		
3x0039	**Chiller/Heat pump refrigeration amount**	0-10000	SV 1.01
	Number of refrigeration circuits		
3x0040	**Chiller/Heat pump hydraulic amount**	0-10000	SV 1.01
	Number of hydraulic circuits		
3x0041	**Chiller/Heat pump source amount**	0-10000	SV 1.01
	Number of sources		
3x0042	**Chiller/Heat pump pump amount**	0-10000	SV 1.01
	Number of pumps		
3x0043	**Chiller/Heat pump compressor amount**	0-10000	SV 1.01
	Number of compressors		
3x0044	**Chiller/Heat pump software version**	0.00-100.00	SV 1.01
	Software version of the chiller/heat pump controller		
3x0045-3x00100	**SPARE**		
3x0101	**Alarm 1, Part A**	-	
	Bitwise stored (16 bits) as: bit 0: Status (1 if active alarm, 0 if recovered) bit 1-5: Day bit 6-9: Month bit 10-15: Year (minus 2000)		
3x0102	**Alarm 1, Part B**	-	
	Bitwise stored (16 bits) as: bit 0-10: Time (of day in minutes) bit 11-13: Product (0 = Nestor, 1 = Swegon Chiller/Heat pump, 2 = Gold AHU, 3 = Super WISE, 4 = Zone controller, 5 = Room controller, 6 = Room Slave controller) bit 14: SPARE bit 15: Priority (0 = A, 1 = B)		
3x0103	**Alarm 1, Part C**	-	
	Bitwise stored (16 bits) as: bit 0-2: Classification (0 = System products, 1 = Cooling/Heating production, 2 = Air production, 3 = Climate supply, 4 = Miscellaneous) bit 3: SPARE bit 4-6: System product number (1-8 for Gold or Super WISE and underlying products, 0 for NESTOR and Swegon Chiller/Heat pump) bit 7: SPARE bit 8-15: Local alarm number		

Input Registers. 16-bit integer value (RO).

Modbus	Name	Min/Max	Misc
3x0104	**Alarm 1, Part D**	-	
	Bitwise stored (16 bits) as: bit 0-1: Slave number (1-3) bit 2-7: Room number (1-60) bit 8: SPARE bit 9-11: Damper number (1-8) bit 12-15: Zone number (0-9)		
3x0105	**Alarm 2, Part A**	-	
3x0106	**Alarm 2, Part B**	-	
3x0107	**Alarm 2, Part C**	-	
3x0108	**Alarm 2, Part D**	-	
…	**…**		
3x0897	**Alarm 200, Part A**	-	
3x0898	**Alarm 200, Part B**	-	
3x0899	**Alarm 200, Part C**	-	
3x0900	**Alarm 200, Part D**	-	

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
4x0001	**Chiller Type**	0-4	
	Chiller Type 0 = None 1 = Heating 2 = Cooling 3 = Reversible 4 = Hybrid System		
4x0002	**Cooling Activation Delay**	0-1000min	
	Activation delay before cooling is requested from chiller		
4x0003	**Heating Activation Delay**	0-1000min	
	Activation delay before heating is requested from chiller		
4x0004	**Mode Prio Temperature**	-20.00-80.00°C	
	Cooling is prioritized when outdoor temperature is above this limit		
4x0005	**Heat Limit Detection**	0-2	
	Trigger temperature for Heat Limit detection function 0 = None 1 = Outdoor Temperature 2 = Supply Temperature		
4x0006	**Heat Limit Action**	0-2	
	Action temperature for Heat Limit detection function 0 = None 1 = Change 2 = Both		
4x0007	**Outdoor Temp Heat Limit**	-20.00-80.00°C	
	Outdoor temperature where Heat Limit function is activated		
4x0008	**HeatLimitDiff**	0.00-10.00K	
	Hysteresis temperature for activate/deactivate Heat Limit function		
4x0009	**HeatLimitDelay**	0-10000min	
	Delay for Heat Limit activation		
4x0010	**MinSwitchDays**	0-365days	
	Minimum no of days between cooling/heating switches		
4x0011	**MinSwitchHours**	0-24hours	
	Minimum no of hours between cooling/heating switches		
4x0012	**ModePrio**	0-1	
	The water production type to which a switch can be forced faster (using Min prio force time): 0 = Heating 1 = Cooling		
4x0013	**MinPrioForceTime**	0-256hours	
	Minimum no of hours between cooling/heating switches to the prioritized mode (Prio Mode)		
4x0014	**OutTempOrigin**	0-8	
	Define where to get the common outdoor temperature 0 = No common temp 1 = Gold 1 … 8 = Gold 8		
4x0015	**Optimizing heating diff**	0.00-10.00K	
	Diff used when optimizing heating set points		
4x0016	**Optimizing cooling diff**	0.00-10.00K	
	Diff used when optimizing cooling set points		

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
4x0017	**External heating demand function**	0-1	SW 1.2
	0 = ECONOMY 1 = COMFORT		
4x0018	**External cooling demand function**	0-1	SW 1.2
	0 = ECONOMY 1 = COMFORT		
4x0019	**External heating demand set point**	0.00-100.00°C	SW 1.2
	Set point used for external heating demand		
4x0020	**External cooling demand set point**	-50.00-50.00°C	SW 1.2
	Set point used for external cooling demand		
4x0021-4x00025	**SPARE**		
4x0026	**Optimization heating increase speed Gold 1**	0.01-10.00K/min	
	Increase speed used when optimizing heating set points, Gold 1		
…	**…**	…	…
4x0033	**Optimization heating increase speed Gold 8**	0.01-10.00K/min	
	Increase speed used when optimizing heating set points, Gold 8		
4x0034	**Optimization heating decrease speed Gold 1**	0.01-10.00K/min	
	Decrease speed used when optimizing heating set points, Gold 1		
…	**…**	…	…
4x0041	**Optimization heating decrease speed Gold 8**	0.01-10.00K/min	
	Decrease speed used when optimizing heating set points, Gold 8		
4x0042	**Optimization cooling increase speed Gold 1**	0.01-10.00K/min	
	Increase speed used when optimizing cooling set points, Gold 1		
…		…	…
4x0049	**Optimization cooling increase speed Gold 8**	0.01-10.00K/min	
	Increase speed used when optimizing cooling set points, Gold 8		
4x0050	**Optimization cooling decrease speed Gold 1**	0.01-10.00K/min	
	Decrease speed used when optimizing cooling set points, Gold 1		
…		…	…
4x0057	**Optimization cooling decrease speed Gold 8**	0.01-10.00K/min	
	Decrease speed used when optimizing cooling set points, Gold 8		
4x0058	**Optimization high valve position Gold 1**	20.00-100.00%	
	High valve limit used when optimizing cooling and heating set points, Gold 1		
…		…	…
4x0065	**Optimization high valve position Gold 8**	20.00-100.00%	
	High valve limit used when optimizing cooling and heating set points, Gold 8		
4x0066	**Optimization low valve position Gold 1**	10.00-95.00%	
	Low valve limit used when optimizing cooling and heating set points, Gold 1		
…		…	…
4x0073	**Optimization low valve position Gold 8**	10.00-95.00%	

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
	Low valve limit used when optimizing cooling and heating set points, Gold 8		
4x0074	**Optimization delay Gold 1**	0-600min	
	Delay time for optimization of cooling and heating set points, Gold 1		
…		…	…
4x0081	**Optimization delay Gold 8**	0-600min	
	Delay time for optimization of cooling and heating set points, Gold 8		
4x0082	**Basic heating set point, Gold 1**	5.00-60.00°C	
	Gold 1 heating set point used when no optimization or as starting point when activating optimization.		
…		…	…
4x0089	**Basic heating set point, Gold 8**	5.00-60.00°C	
	Gold 8 heating set point used when no optimization or as starting point when activating optimization.		
4x0090	**Basic cooling set point, Gold 1**	-5.00-25.00°C	
	Gold 1 cooling set point used when no optimization or as starting point when activating optimization.		
…			
4x0097	**Basic cooling set point, Gold 8**	-5.00-25.00°C	
	Gold 8 cooling set point used when no optimization or as starting point when activating optimization.		
4x0098-4x0100	**SPARE**		
4x101	**IP_Addr_0**	0-255	
	IP adress part 1		
4x102	**IP_Addr_1**	0-255	
	IP adress part 2		
4x103	**IP_Addr_2**	0-255	
	IP adress part 3		
4x104	**IP_Addr_3**	0-255	
	IP adress part 4		
4x0105	**WEB_Server_Port**	0-255	
	Port Number		
4x0106-4x0110	**SPARE**		
4x0111	**Year**	2000-2100	
	Date setting Year		
4x0112	**Month**	1-12	
	Date setting month		
4x0113	**Day**	1-31	
	Date setting Day		
4x0114	**Hour**	0-23	
	Time setting Hour		
4x0115	**Minute**	0-59	
	Time setting Minute		
4x0116	**OpModeAction**	0-7	

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
	Time channel action 0 = Auto - Auto 1 = Auto, No Cooling - Auto 2 = Auto-Low Speed 3 = Auto No Cooling - Low Speed 4 = Auto - High Speed 5 = Auto, No Cooling - High Speed 6 = Low Speed - HighSpeed 7 = Low Speed, No Cooling - High Speed		
4x0117	**TimeChOpModeStatus0**	0-10	
	Time channel 1 Day selection 0 = Inactive 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday 8 = Monday - Sunday 9 = Monday - Friday 10 = Saturday - Sunday		
…	**…**		
4x0124	**TimeChOpModeStatus7**	0-10	
	Time channel 8 Day selection 0 = Inactive 1 = Monday 2 = Tuesday 3 = Wednesday 4 = Thursday 5 = Friday 6 = Saturday 7 = Sunday 8 = Monday - Sunday 9 = Monday - Friday 10 = Saturday - Sunday		
4x0125	**TimeChOpModeStartH0**	0-23	
	Time channel 1 Hour start		
…			
4x0132	**TimeChOpModeStartH7**	0-23	
	Time channel 8 Hour start		
4x0133	**TimeChOpModeStartM0**	0-59	
	Time channel 1 Minute start		
…			
4x0140	**TimeChOpModeStartM7**	0-59	
	Time channel 8 Minute start		
4x0141	**TimeChOpModeStopH0**	0-23	
	Time channel 1 Hour stop		
…			
4x0148	**TimeChOpModeStopH7**	0-23	

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
	Time channel 8 Hour stop		
4x0149	**TimeChOpModeStopM0**	0-59	
	Time channel 1 Minute stop		
…			
4x0156	**TimeChOpModeStopM7**	0-59	
	Time channel 8 Minute stop		
4x0157	**YearChOpModeAction0**	0-7	
	Year channel 1 action 0 = Year channel off, 1 = Stop, No Cooling 2 = Auto 3 = Auto, No Cooling 4 = Low Speed 5 = Low Speed, No Cooling 6= High Speed 7 = High Speed, No Cooling		
…			
4x0164	**YearChOpModeActive7**	0-7	
	Year channel 8 action 0 = Year channel off, 1 = Stop, No Cooling 2 = Auto 3 = Auto, No Cooling 4 = Low Speed 5 = Low Speed, No Cooling 6= High Speed 7 = High Speed, No Cooling		
4x0165	**YearChOpModeStartY0**	2010-2100	
	Year channel 1 Year start		
…			
4x0172	**YearChOpModeStartY7**	2010-2100	
	Year channel 8 Year start		
4x0173	**YearChOpModeStartMo0**	1-12	
	Year channel 1 Month start		
…			
4x0180	**YearChOpModeStartMo7**	1-12	
	Year channel 8 Month start		
4x0181	**YearChOpModeStartD0**	1-31	
	Year channel 1 Day start		
…			
4x0188	**YearChOpModeStartD7**	1-31	
	Year channel 8 Day start		
4x0189	**YearChOpModeStartH0**	0-23	
	Year channel 1 Hour start		
…			
4x0196	**YearChOpModeStartH7**	0-23	
	Year channel 8 Hour start		

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
4x0197	**YearChOpModeStartM0**	0-59	
	Year channel 1 Minute start		
…			
4x0197	**YearChOpModeStartM7**	0-59	
	Year channel 8 Minute start		
4x0205	**YearChOpModeStopY0**	2010-2100	
	Year channel 1 Year stop		
…			
4x0212	**YearChOpModeStopY7**	2010-2100	
	Year channel 8 Year stop		
4x0213	**YearChOpModeStopMo0**	1-12	
	Year channel 1 Month stop		
…			
4x0220	**YearChOpModeStopMo7**	1-12	
	Year channel 8 Month stop		
4x0221	**YearChOpModeStopD0**	1-31	
	Year channel 1 Day stop		
…			
4x0228	**YearChOpModeStopD7**	1-31	
	Year channel 8 Day stop		
4x0229	**YearChOpModeStopH0**	0-23	
	Year channel 1 Hour stop		
…			
4x0236	**YearChOpModeStopH7**	0-23	
	Year channel 8 Hour stop		
4x0237	**YearChOpModeStopM0**	0-59	
	Year channel 1 Minute stop		
…			
4x0244	**YearChOpModeStopM7**	0-59	
	Year channel 8 Minute stop		
4x0245	**Version, Gold 1**	0-1	SW 1.2
	0 = GOLD Ver D 1 = GOLD Ver E		
…	**…**		
4x0252	**Version, Gold 8**	0-1	SW 1.2
	0 = GOLD Ver D 1 = GOLD Ver E		
4x0253-4x0400	**SPARE**		
4x0401	**Port_Nmbr_UserSet00**	1-30000	
	Gold 1 Port number		
…	**…**		
4x0408	**Port_Nmbr_UserSet07**	1-30000	
	Gold 8 Port number		
4x0409	**Port_Nmbr_UserSet08**	1-30000	
	Super WISE 1 Port number		
…	**…**		
4x0416	**Port_Nmbr_UserSet15**	1-30000	
	Super WISE 8 Port number		
4x0417-4x0430	**SPARE**		
4x0431	**Port_IP3_UserSet00**	0-255	

Holding Registers. 16-bit integer value (R/W).

Modbus	Name	Min/Max	Misc
	Gold 1 IP number part A		
…	…		
4x0438	**Port_IP3_UserSet07**	0-255	
	Gold 8 IP number part A		
4x0439	**Port_IP3_UserSet08**	0-255	
	Super WISE 1 IP number part A		
…	…		
4x0446	**Port_IP3_UserSet15**	0-255	
	Super WISE 8 IP number part A		
4x0447-4x0460	**SPARE**		
4x0461	**Port_IP2_UserSet00**	0-255	
	Gold 1 IP number part B		
…	…		
4x0468	**Port_IP2_UserSet07**	0-255	
	Gold 8 IP number part B		
4x0469	**Port_IP2_UserSet08**	0-255	
	Super WISE 1 IP number part B		
…	…		
4x0476	**Port_IP2_UserSet15**	0-255	
	Super WISE 8 IP number part B		
4x0477-4x0490	**SPARE**		
4x0491	**Port_IP1_UserSet00**	0-255	
	Gold 1 IP number part C		
…	…		
4x0498	**Port_IP1_UserSet07**	0-255	
	Gold 8 IP number part C		
4x0499	**Port_IP1_UserSet08**	0-255	
	Super WISE 1 IP number part C		
…	…		
4x0506	**Port_IP1_UserSet15**	0-255	
	Super WISE 8 IP number part C		
4x0507-4x0520	**SPARE**		
4x0521	**Port_IP0_UserSet00**	0-255	
	Gold 1 IP number part D		
…	…		
4x0528	**Port_IP0_UserSet07**	0-255	
	Gold 8 IP number part D		
4x0529	**Port_IP0_UserSet08**	0-255	
	Super WISE 1 IP number part D		
…	…		
4x0536	**Port_IP0_UserSet15**	0-255	
	Super WISE 8 IP number part D		