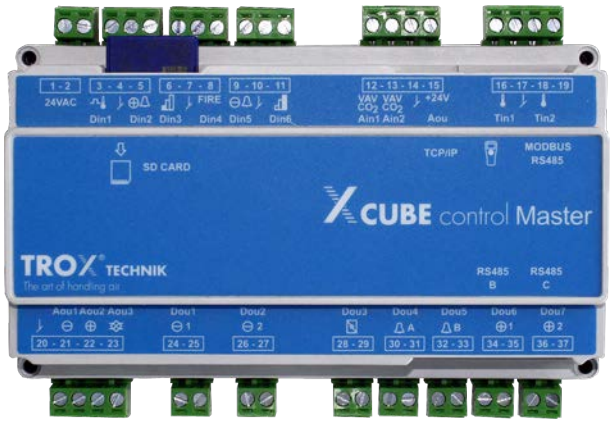
Протокол Modbus

Центральный контроллер X-CUBE

Версия ПО 3.24



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A00000070097, 1, RU/ru
08/2018

1 Общая информация

О руководстве

В данном руководстве описывается как подключить и сконфигурировать центральный кондиционер X-CUBE compact при помощи Modbus RTU или Modbus TCP.

Руководство предназначено для системных администраторов, для лиц, получивших соответствующую подготовку, квалифицированных электриков или специалистов по вентиляции и кондиционированию.

К любым работам с оборудованием допускаются только лица, изучившие данное руководство. Главным условием безопасной работы является соблюдение предупреждений и всех инструкций, изложенных в настоящем руководстве.

Кроме того, также должны соблюдаться местные нормы охраны труда и общие правила по технике безопасности, установленные для конкретной сферы эксплуатации центральных кондиционеров.

При передаче системы заказчику данное руководство следует вручить менеджеру по эксплуатации здания. Менеджер обязан включить руководство в комплект документации на систему. Данное руководство должно постоянно храниться в доступном месте.

Иллюстрации в этом документе носят информационных характер и могут отличаться от конструкции поставленного вам центрального кондиционера.

Другие применимые документы

В дополнение к этим инструкциям прилагаются следующие документы:

- Подтверждение заказа
- Спецификация на центральный кондиционер от TROX
- Чертежи оборудования
- Спецификации на компоненты от других поставщиков, при наличии
- Схема электроподключений для центрального кондиционера
- Дополнительные чертежи, если есть
- X-CUBE compact руководство по транспортировке и монтажу
- X-CUBE compact руководство по эксплуатации
- Руковоство по монтажу и вводу в эксплуатацию для аксессуаров X-CUBE compact

Авторские права

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2 Подсоединение центрального контроллера X-CUBE

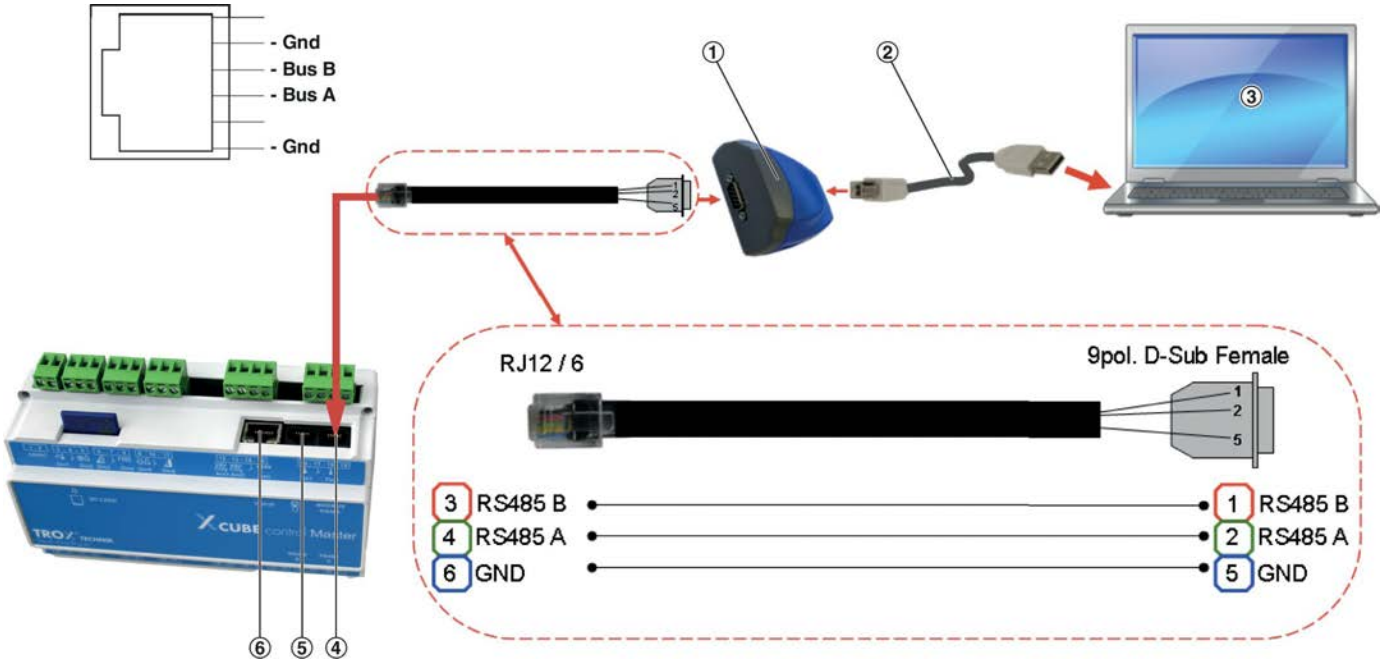

Рис. 1: Подсоединение центрального контроллера X-CUBE

① USB адаптер -> Modbus RS485
② USB кабель
③ ПК/ноутбук, с программным обеспечением, например, QuickMod Modbus Scanner (бесплатно, *www.azeotech.com*) или Modbus Poll *www.modbustools.com*
④ Разъем RJ12 для Modbus / RS485
⑤ Разъем RJ12 для ручного пульта управления
⑥ Разъем RJ45 для TCP/IP

Интерфейс связи центрального контроллера X-CUBE

TCP/IP:	- 1 × 10/100 Мбит Ethernet, разъем RJ45
Modbus RS485:	- 1 × внешний Modbus, RS485, разъем RJ12, регулируемый на 9.6 кБод, 19.2 кБод или 38.4 кБод Оконечные соединения: Вывод 1 NC, Вывод 2 GND, Вывод 3 RS485 B, Вывод 4 RS485 A, Вывод 5 NC, Вывод 6 GND (Рис. 1).
Ручной пульт управления	- 1 × Modbus, RS485, 115 кБод, +24 В пост.ток, разъем RJ12 RS485 A: Не используется: RS485 B и C - 2 × общий локальный Modbus, RS485, 38.4 кБод, +24 В пост.ток, разъем RJ12

2.1 Подключение Modbus TCP

Рис. 2: Кабельные вводы под главным сетевым выключателем

Modbus TCP может быть подключен к интерфейсу TCP/IP (Рис. 2/1). Подключение к центральному контроллеру выполнено на заводе.

2.2 Подключение Modbus RTU

Персонал:

- Квалифицированный электрик

⚠ ОПАСНОСТЬ!

Для электроподключений компонентов выполняйте требования и замечания по безопасности, указанные в "Руководстве по транспортировке и монтажу X-CUBE compact".

Отключение источника питания

⚠ ОПАСНОСТЬ!

Опасность поражения электрическим током! Запрещается дотрагиваться до токоведущих частей. На электрических компонентах присутствует опасное для жизни электрическое напряжение.

– К работам с электрической частью противопожарного клапана допускаются только квалифицированные специалисты электрики.
– Перед началом выполнения работ с электрической частью противопожарного клапана отключите его от питающей сети.

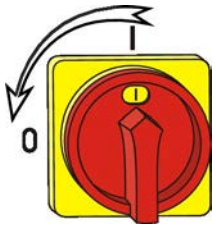

Рис. 3: Выключение главного сетевого выключателя

1. ▸ Поверните главный сетевой выключатель на компактной установке в положение 0/OFF.

Рис. 4: Снятие панели электрических соединений

2. ▸ Ослабьте винты (Рис. 4/2) на панели электрических соединений (Рис. 4/1) и снимите панель.

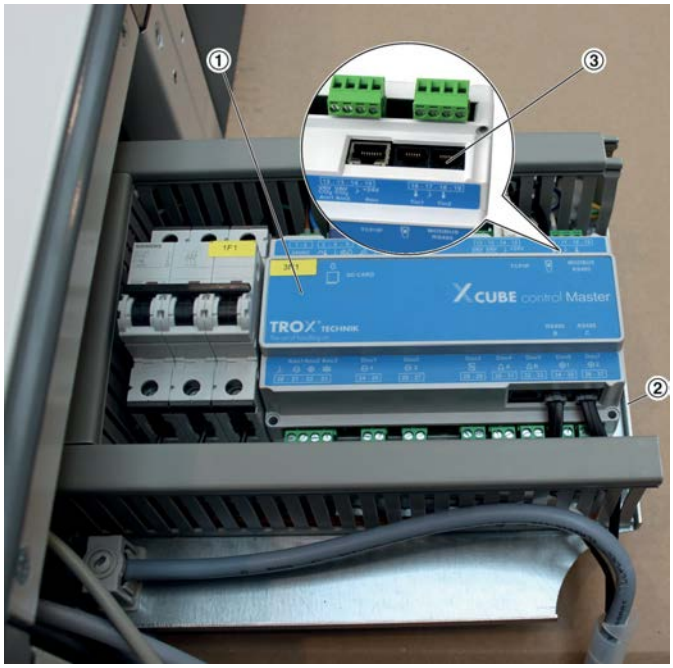

Рис. 5: Центральный контроллер X-CUBE

3. ▸ Для подключения кабеля шины к центральному контроллеру (Рис. 5/1) вытяните поддон с электрическими компонентами (Рис. 5/2).

   Протяните соединительный кабель через отверстие (Рис. 4/3) в панели и вставьте его в порт Modbus / RS485 (RJ12, Рис. 5/3) центрального контроллера.

   Расположите соединительный кабель шины таким образом, чтобы он не повредился при сборке панели.

   Задвиньте поддон с электрическими компонентами обратно в установку.

4. ▸ Соберите панель электрических соединений (Рис. 4/1).

3 Modbus RTU / TCP

Обзор

Версия ПО

Данная информация относится к версии ПО 2.xx и выше.

Данный протокол Modbus содержит все адреса и регистры центрального контроллера X-CUBE.

Для каждого варианта центрального кондиционера доступны одни и те же параметры, независимо от фактически поставленного оборудования; это означает, что напр., значение температуры для компонента может быть считано, даже если этот компонент не установлен в центральном кондиционере. Однако пока не установлен датчик температуры, это значение не используется.

Modbus может обрабатывать один адрес или несколько адресов одновременно, считывая или записывая 1-битовые или 16-битовые значения.

Валидный Modbus адрес содержит либо 1-битовое значение, либо 16-битовое целое число.

Формат данных Modbus

Типы данных Modbus являются 1-битовыми или 16-битовыми значениями.

Тип Modbus	Описание	Ссылка	Стр.
Состояние контура (R/W)	Дискретный выход	0x	*9*
Состояние ввода (R)	Дискретный ввод	1x	*12*
Регистр хранения (R/W)	16-битовый регистр выхода	4x	*24*
Регистр ввода (R)	16-битовый регистр ввода	3x	*18*

R = Только считывание

R/W = Считывание / Запись

Поддерживаемые Modbus команды

Код функции	Описание
1	Считать состояние контура
2	Считать состояние ввода
3	Считать регистр хранения
4	Считать регистр ввода
5	Принудительно задать один контур
6	Предустановить одиночные регистры
8	Diagnostics.Sub-function 00 только - Возврат запроса данных (закольцовывание)
15	Принудительно задать множественные контуры
16	Предустановить множественные регистры

4 Параметры

Рис. 6: Обзор

Параметры ①	
Фактический расход вытяжного воздуха [л/с]	3x0009
Двигатель в вытяжном воздухе, мощность, процент [1/100 %]	3x0083
Уставка расхода вытяжного воздуха, низкая скорость [л/с]	4x0014
Уставка расхода вытяжного воздуха, высокая скорость [л/с]	4x0015
Фактич. давление в воздуховоде, вытяжной воздух [Па]	3x0005
Уставка давления в воздуховоде, вытяжн. воздух, низкая скорость [Па]	4x0007
Уставка давления в воздуховоде, вытяжн. воздух, высокая скорость [Па]	4x0008
Давление фильтра, приточный воздух [Па]	3x0031
Мониторинг фильтра, приточн. воздух, макс. лимит для сигнала тревоги [Па]	3x0039
Фактическая темп. наружного возд. [1/100 °C]	3x0024

Параметры ②	
Роторный регенератор – мощность [%]	3x0092

Параметры ③	
Фактич. холодопроизводительность [1/100 %]	3x0056

Параметры ④	
Фактическая теплопроизводительность [1/100 %]	3x0054
Реле нагрева 1	1x0031
Фактич. рабочая темп., нагрев [1/100 %]	3x0030

Параметры ⑤	
Текущий режим работы	3x0001
Рабочий режим ON/OFF	1x0001
Низкая скорость - продлено -> Активно	1x0004
Высокая скорость - продлено -> Активно	1x0005
Реле аварийного сигнала 1 (A сигнал)	1x0035
Реле аварийного сигнала 2 (B сигнал)	1x0036
Сброс аварийного сигнала (Автовозврат на ноль)	0x0001

Параметры ⑥	
Фактич. темп. приточн. возд. [1/100 °C]	3x0020
Настройка стратегии управления	4x0148
Уставка температуры для текущей стратегии управления	4x0149
Давление фильтра, вытяжной воздух [Па]	3x0032
Макс. лимит аварийного сигнала, фильтр вытяжн. воздуха, потеря давления [Па]	3x0040
Фактич. темп. в помещении [1/100 °C]	3x0025
Фактич. темп. удаляемого возд. [1/100 °C]	3x0026
Мин. темп. приточного воздуха [1/100 °C]	4x0150
Макс. темп. приточного воздуха [1/100 °C]	4x0151
Фактич. давление в воздуховоде, приточн. воздух [Па]	3x0003
Уставка давления в воздуховоде, приточн. воздух, низкая скорость [Па]	4x0003
Уставка давления в воздуховоде, приточн. воздух, высокая скорость [Па]	4x0004
Фактич. расход приточного воздуха [л/с]	3x0007
Двигатель в приточном воздухе, мощность, процент [1/100 %]	3x0073
Уставка расхода приточного воздуха, низкая скорость [л/с]	4x0011
Уставка расхода приточного воздуха, высокая скорость [л/с]	4x0012

Coil Status (R/W)

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
Alr_Reset		0	0x0001	0	1	Alarm reset signal (AutoReturn to zero)
CoolRecovFunc		1	0x0002	0	1	Cooling recovery: ON/OFF
SN_Func		2	0x0003	0	1	Summer night cooling: ON/OFF
SWTC_Func		3	0x0004	0	1	Summer/winter temp. compensation: ON/OFF
FlwTmpCmpFunc		4	0x0005	0	1	Flow/outdoor temperature compensation: ON/OFF
RecircFunc		5	0x0006	0	1	Recirculation: ON/OFF
CoolFlwForceFc		6	0x0007	0	1	Forced flow with cooling demand: ON/OFF
TimeSw-SumFunc		7	0x0008	0	1	Automatic summer/winter time: ON/OFF
ExtDrfHiPeriod		8	0x0009	0	1	Input for forced high speed
ExtDrfPeriodON		9	0x0010	0	1	Run-on time for forced high speed active
EXC_CCV		10	0x0011	0	1	Rotary heatexchanger, turn ratation direction to counter clock wise (CCW)
ExtDrfMePeriod		11	0x0012	0	1	Input for forced medium speed
ManZeroCali		19	0x0020	0	1	Start manual zero calibration (can be used together with automatic zero calibration) Is automatically reset to zero (OFF) once calibration has been completed
AutoZeroCali		20	0x0021	0	1	Automatic zero calibration: ON/OFF
FiltDynAlrFunc		21	0x0022	0	1	Dynamic filter alarm –> ON/OFF OFF –> static alarm limit (constant) ON –> dynamic alarm limit (limit based on flow)
FiltCalibrate		22	0x0023	0	1	Start filter calibration. Is automatically reset to zero (OFF) once calibration has been completed. NOTE! ONLY IF "DYNAMIC MODE" IS SET
FiltCaliDone		23	0x0024	0	1	Filter calibration completed (valid filter data) NOTE! ONLY IF "DYNAMIC MODE" IS SET
CmbEnCtrlMB		24	0x0025	0	1	Enable multi purpose battery for control via external Modbus [1=Modbus/0=Dig. input]
CmbEnHeatMB		25	0x0026	0	1	Hot water supply is available for the multi purpose battery
CmbEnCoolMB		26	0x0027	0	1	Cold water supply is available for the multi purpose battery

6 Состояние ввода

Input Status

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
Operation		0	1x0001	0	1	Operation ON/OFF
ExtStop		1	1x0002	0	1	Externalalal stop
ExtHiSpeed		2	1x0003	0	1	Externalalal high speed
ExtDrfLoSpeed		3	1x0004	0	1	Extended low speed –> Active
ExtDrfHiSpeed		4	1x0005	0	1	Extended high speed –> Active
ExtBrandStop		5	1x0006	0	1	Status Brandstop input
ExtDrfMeSpeed		6	1x0007	0	1	Extended medium speed –> Active
ElBattPowerRed		9	1x0010	0	1	Power to electric heating battery reduced due to low flow
SN_Drift		10	1x0011	0	1	Summer night cooling is active
SN_Reset		11	1x0012	0	1	Reset parameters for summer night cooling (new calculation is initiated)
SWTC_WintComp		12	1x0013	0	1	Winter temperaturee compensation is active
SWTC_SumComp		13	1x0014	0	1	Summer temperaturee compensation is active
SW_Status		14	1x0015	0	1	Summer/winter actual status OFF –> winter operation ("0") ON –> summer operation ("1")
RecircStatus		15	1x0016	0	1	Recirculation status
EXC_Exercise		16	1x0017	0	1	Exercising heat exchanger –> Active
ExhaustPowRed		17	1x0018	0	1	Signal to cross-flow exchanger reduced (frost protection)
SupDuctMinFlow		18	1x0019	0	1	Inlet duct pressure controller reduced to min. flow
SupDuctMaxFlow		19	1x0020	0	1	Inlet duct pressure controller increased to max. flow
ExtDuctMinFlow		20	1x0021	0	1	Extract duct pressure controller reduced to min. flow
ExtDuctMaxFlow		21	1x0022	0	1	Extract duct pressure controller increased to max. flow
CoolRecovery		22	1x0023	0	1	Cooling recovery –> status
HW_FrosrReg		23	1x0024	0	1	Circulation pump on heating battery: Frost protection –> Active
HW_PumpExer		24	1x0025	0	1	Circulation pump on heating battery: Pump exercising –> Active
CW_PumpExer		25	1x0026	0	1	Circulation pump on cooling battery: Pump exercising –> Active
Heat_FlwDnReg		26	1x0027	0	1	Signal to heating battery reduced (insufficient flow) –> Active
TempRegMinSup		27	1x0028	0	1	"1" when min. inlet temperaturee control is active. Only active when TempRegMode is 1 or 2 (room temp. control)
TempRegMaxSup		28	1x0029	0	1	"1" when max. inlet temperaturee control is active. Only active when TempRegMode is 1 or 2 (room temp. control)
BattEXC_Exer		29	1x0030	0	1	Circulation pump on heat recovery battery: Pump exercising –> Active
Heat_RE1		30	1x0031	0	1	Heating relay 1
Cool_RE1		31	1x0032	0	1	Cooling relay 1
BattEXC_PumpRE		32	1x0033	0	1	Circulation pump on heat recovery battery: Pump –> Running
AlrActive		33	1x0034	0	1	At least one active alarm

Input Status

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
Alr_RE1		34	1x0035	0	1	Alarm relay 1 (A-alarm)
Alr_RE2		35	1x0036	0	1	Alarm relay 2 (B-alarm)
Alr_FireSignal		36	1x0037	0	1	Fire alarm signal (room sensor)
Alr_SmokeSig		37	1x0038	0	1	Smoke/fire alarm signal (duct sensor)
AlrBatOverHeat		38	1x0039	0	1	Electric battery: High temperaturee alarm signal
AlrElBattCont		39	1x0040	0	1	Electric battery: Relay stuck
FiltSupalarm		40	1x0041	0	1	Filter alarm for inlet filter (pressure drop above set limit)
FiltExtalarm		41	1x0042	0	1	Filter alarm for extract filter (pressure drop above set limit)
CExcDeIcing		42	1x0043	0	1	Reduction of cross-flow exchanger due to de-icing; deicing started
ElBat2OverHeat		43	1x0044	0	1	Electric battery 2 - Overheating signal
ElBat2PowerRed		44	1x0045	0	1	Electric battery 2 - Output reduction active due to low flow
SupTempSensErr		49	1x0050	0	1	Inlet temperaturee sensor – sensor fault
ExtTempSensErr		50	1x0051	0	1	Extract temperaturee sensor – sensor fault
OutDoorSensErr		51	1x0052	0	1	Outdoor temperaturee sensor – sensor fault
RoomSensErr		52	1x0053	0	1	Room temperaturee sensor – sensor fault
ExhaustSensErr		53	1x0054	0	1	Exhaust temperaturee sensor – sensor fault
HW_SensErr		54	1x0055	0	1	Heating battery temperaturee sensor – sensor fault
BattEXC_SensEr		55	1x0056	0	1	Heat recovery battery temperaturee sensor – sensor fault
HW_FrostAlr		56	1x0057	0	1	Heating battery frost alarm
Cool_Sumalarm		59	1x0060	0	1	Cooling shared alarm
Cool_DI1_alarm		60	1x0061	0	1	Cooling digital alarm 1 input
Cool_DI2_alarm		61	1x0062	0	1	Cooling digital alarm 2 input
Cool_DI3_alarm		62	1x0063	0	1	Cooling digital alarm 3 input
Cool_DI4_alarm		63	1x0064	0	1	Cooling digital alarm 4 input
SupmotorON		69	1x0070	0	1	Inlet motor ON/OFF
Supmotoralarm		70	1x0071	0	1	Alarm from inlet motor ON/OFF
EXC_ON		89	1x0090	0	1	Rotary heat exchanger – motor control ON/OFF (only with TX-RHX2M)
EXC_Reset		90	1x0091	0	1	Rotary heat exchanger – reset signal (only with TX-RHX2M)
EXC_Direction		91	1x0092	0	1	Rotary heat exchanger – rotation direction (only with TX-RHX2M)
EXC_Rotalarm		92	1x0093	0	1	Rotary heat exchanger – rotation alarm (only with TX-RHX2M)
EXC_Vloalarm		93	1x0094	0	1	Rotary heat exchanger – low voltage alarm (only with TX-RHX2M)
EXC_VHialarm		94	1x0095	0	1	Rotary heat exchanger – high voltage alarm (only with TX-RHX2M)
EXC_IHialarm		95	1x0096	0	1	Rotary heat exchanger – high current alarm (only with TX-RHX2M)
EXC_Tempalarm		96	1x0097	0	1	Rotary heat exchanger – temperaturee alarm (only with TX-RHX2M)
EXC_RotSignal		97	1x0098	0	1	Rotary heat exchanger – rotation signal (only with TX-RHX2M)

Input Status

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
EXC_Overload		98	1x0099	0	1	Rotary heat exchanger – torque overload (only with TX-RHX2M)
PH_PowReduce		99	1x0100	0	1	Pre-heating element - Output reduction, low air volume
PHFrostRegAct		100	1x0101	0	1	Pre-heating element - Relay for active heating/cooling
PHHeCoRelay		101	1x0102	0	1	Pre-heating element - Frost protection active
PHFrzAlrCool		102	1x0103	0	1	Pre-heating element - Frost alarm, cooling
PH_Overheat		103	1x0104	0	1	Pre-heating element - Overheating fault
PH_HWBSensErr		104	1x0105	0	1	Pre-heating element - Return sensor - Sensor fault
PHFreezeAlarm		105	1x0106	0	1	Pre-heating element - Frost alarm
PHHeatRelay3		107	1x0108	0	1	Pre-heating element - Heat relay 3 (Heat/Cool)
HW2SensErr		149	1x0150	0	1	Heating battery 2 - Return sensor - Sensor fault
HW2FrostAlr		150	1x0151	0	1	Heating battery 2 - Frost alarm
HW2FrostReg		151	1x0152	0	1	Heating battery 2 - Frost control active
HW2PumpExer		152	1x0153	0	1	Heating battery 2 - Circulation pump, pump exercising active
Heat_RE2		153	1x0154	0	1	Heating relay 2 (ExtMod-Reserve)
Heat_RE21		154	1x0155	0	1	Heating relay 21 (ExtMod-Reserve)
Heat_RE22		155	1x0156	0	1	Heating relay 22 (ExtMod-Reserve)
Heat_RE23		156	1x0157	0	1	Heating relay 23 (ExtMod-Reserve)
Heat_RE24		158	1x0159	0	1	Heating relay 24 (ExtMod-Reserve)
Heat_RE25		159	1x0160	0	1	Heating relay 25 (ExtMod-Reserve)
AddOnTSens1Err		160	1x0161	0	1	Add on sensor 1 - Sensor fault
AddOnTSens2Err		161	1x0162	0	1	Add on sensor 2 - Sensor fault
AddOnTSens3Err		162	1x0163	0	1	Add on sensor 3 - Sensor fault
AddOnTSens4Err		163	1x0164	0	1	Add on sensor 4 - Sensor fault
HW_StatLuftAlr		164	1x0165	0	1	Status frost thermostat alarm (digital input)
AlrFrzBattEXC		165	1x0166	0	1	Frost alarm fluid-coupled battery (BattEXC)
HumidAlrInp		168	1x0169	0	1	Humidifier alarm status
CombiTSenErr		169	1x0170	0	1	Multi-purpose battery - Return sensor - Sensor fault
CombiFrostAlrH		170	1x0171	0	1	Multi-purpose battery - Frost alarm
CombiFrostReg		171	1x0172	0	1	Multi-purpose battery - Frost protection active
CombiPumpExer		172	1x0173	0	1	Multi-purpose battery - Circulation pump, pump exercising active
CombiCoolRel		173	1x0174	0	1	Multi-purpose battery; Cooling relay aktive
CombiHeatRel		174	1x0175	0	1	Multi-purpose battery; Heating relay aktive
Ht2DelayStatus		175	1x0176	0	1	Special customer code: Status timer Heat2
Ht2RecBlkAct		176	1x0177	0	1	Special customer code: Blokcing Heat2 in recirkulation mode = Aktiv
Ht2FlowChgAct		177	1x0178	0	1	Special customer code: Flow changed caused Heat2 is aktivated
IntRecFlowStat		178	1x0179	0	1	Special customer code: Status low flow during 100% recirkulation
RecClosDmpAct		179	1x0180	0	1	Special customer code: Recirkulation damper is closed
HT2DelLimBlkNo		180	1x0181	0	1	Special customer code: Limitting Heat2 is not activated
NO_CStopStat		181	1x0182	0	1	Special customer code: Outsdoor air cooling: Stop activated
HW1RiFaActiv		182	1x0183	0	1	Max. raise-/fall-time is aktivated
Alr_FireEvaDmp		183	1x0184	0	1	Alarm smoke evacuation damper is activated
EC2supMtAlrVlo		184	1x0185	0	1	EC 2-inlet/supply air motor voltage low alarm
EC2supMtAlrVhi		185	1x0186	0	1	EC 2-inlet/supply air motor voltage high alarm
EC2supMtAlrIhi		186	1x0187	0	1	EC 2-inlet/supply air motor high current limit alarm
EC2supMtAlrTmp		187	1x0188	0	1	EC 2-inlet/supply air motor temperature alarm

Input Status

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
EC2supMtAlrPhs		188	1x0189	0	1	EC 2-inlet/supply air motor alarm for phase error
EC2supRotBlok		189	1x0190	0	1	EC 2-inlet/supply air motor alarm for blocked rotor
EC2supMtIhiLim		190	1x0191	0	1	EC 2-inlet/supply air motor high current limit; shortcuit protection
EC2extMtAlrVlo		191	1x0192	0	1	EC 2-extract/exhaust motor voltage low alarm
EC2extMtAlrVhi		192	1x0193	0	1	EC 2-extract/exhaust motor voltage high alarm
EC2extMtAlrIhi		193	1x0194	0	1	EC 2-extract/exhaust motor high current limit alarm
EC2extMtAlrTmp		194	1x0195	0	1	EC 2-extract/exhaust motor temperature alarm
EC2extMtAlrPhs		195	1x0196	0	1	EC 2-extract/exhaust motor alarm for phase error
EC2extRotBlok		196	1x0197	0	1	EC 2-extract/exhaust motor alarm for blocked rotor
EC2extMtIhiLim		197	1x0198	0	1	EC 2-extract/exhaust motor high current limit; shortcuit protection
AlrTTH6202Com		198	1x0199	0	1	TTH-6202 communication error
ECsupMtrAlrVlo		199	1x0200	0	1	EC-inlet/supply air motor voltage low alarm
ECsupMtrAlrVhi		200	1x0201	0	1	EC-inlet/supply air motor voltage high alarm
ECsupMtrAlrIhi		201	1x0202	0	1	EC-inlet/supply air motor high current limit alarm
ECsupMtrAlrTmp		202	1x0203	0	1	EC-inlet/supply air motor temperature alarm
ECsupMtrAlrPhs		203	1x0204	0	1	EC-inlet/supply air motor alarm for phase error
ECsupRotBloked		204	1x0205	0	1	EC-inlet/supply air motor alarm for blocked rotor
ECsupMtrIhiLim		205	1x0206	0	1	EC-inlet/supply air motor high current limit; shortcuit protection
ECextMtrAlrVlo		206	1x0207	0	1	EC-extract/exhaust motor voltage low alarm
ECextMtrAlrVhi		207	1x0208	0	1	EC-extract/exhaust motor voltage high alarm
ECextMtrAlrIhi		208	1x0209	0	1	EC-extract/exhaust motor high current limit alarm
ECextMtrAlrTmp		209	1x0210	0	1	EC-extract/exhaust motor temperature alarm
ECextMtrAlrPhs		210	1x0211	0	1	EC-extract/exhaust motor alarm for phase error
ECextRotBloked		211	1x0212	0	1	EC-extract/exhaust motor alarm for blocked rotor
ECextMtrIhiLim		212	1x0213	0	1	EC-extract/exhaust motor high current limit; shortcuit protection
AlrExtIO1_Comm		213	1x0214	0	1	Externalal IO-Modul no. 1 - communication error
AlrExtIO2_Comm		214	1x0215	0	1	Externalal IO-Modul no. 2 - communication error
AlrExtIO3_Comm		215	1x0216	0	1	Externalal IO-Modul no. 3 - communication error
AlrExtIO4_Comm		216	1x0217	0	1	Externalal IO-Modul no. 4 - communication error
AlrExtIO5_Comm		217	1x0218	0	1	Externalal IO-Modul no. 5 - communication error
AlrExtIO6_Comm		218	1x0219	0	1	Externalal IO-Modul no. 6 - communication error
AlrExtIO7_Comm		219	1x0220	0	1	Externalal IO-Modul no. 7 - communication error
AlrExtIO8_Comm		220	1x0221	0	1	Externalal IO-Modul no. 8 - communication error
AlrAddOnSens1		221	1x0222	0	1	Addon sensor 1 - Sensor error
AlrAddOnSens2		222	1x0223	0	1	Addon sensor 2 - Sensor error
AlrAddOnSens3		223	1x0224	0	1	Addon sensor 3 - Sensor error
AlrAddOnSens4		224	1x0225	0	1	Tillægsføler 4 - Sensor error
ROHRiFaActiv		225	1x0226	0	1	Special customer code functionality
Cmb2CoolRel		226	1x0227	0	1	Multi-purpose battery; Cooling relay no. 2 aktive
ECsupEEP_Err		227	1x0228	0	1	Supply air fan Eeprom error
ECsupEEP2_Err		228	1x0229	0	1	Supply air fan 2 Eeprom error
ECextEEP_Err		229	1x0230	0	1	Exhaust air fan Eeprom error
EC2extEEP_Err		230	1x0231	0	1	Exhaust air fan 2 Eeprom error
TTH6040ComAlr		231	1x0232	0	1	TTH-6040 communikation error
LowOilDXHPAlr		232	1x0233	0	1	Low oil level cooling compressor
AlrFireManStop		233	1x0234	0	1	Fire mann stop

Input Status

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
AlrSmokEvac		234	1x0235	0	1	Smoke evacuation activated
BMSRoomTOOR		235	1x0236	0	1	BMS room sensor out of range
BMSOutDTOOR		236	1x0237	0	1	BMS outdoor temperature out of range
AlrSmokEvaFan		237	1x0238	0	1	Smoke evacuation fan alarm
StatInleRel		239	1x0240	0	1	Output for outdoor air/exhaust air active
StatSupRel		240	1x0241	0	1	Output for supply air damper aktive
StatRecRel		241	1x0242	0	1	Output for recircutation damper aktive
ExOutDSensErr		242	1x0243	0	1	External outdoor temperature sensor - sensor error
PHTempSensErr		243	1x0244	0	1	Temperature sensor pre-heater - sensor error
CW_TSensErr		244	1x0245	0	1	Cooling water supply temperature - sensor error
Heat_RE26		245	1x0246	0	1	Heating relay26 (ExtMod-Reserve)
Combi_PumpRE		246	1x0247	0	1	Pump relay combi battery activated
AlrBat2OverHea		247	1x0248	0	1	Electric battery 2: High temperaturee alarm signal
AlrBat2Contact		248	1x0249	0	1	Electric battery 2: Relay stuck
OutFiltAlrOn		249	1x0250	0	1	Alarm - Time is out for filter change supply air filter
ExtFiltAlrOn		250	1x0251	0	1	Alarm - Time is out for filter change exhaust air filter
FCAlrSupPoLim		251	1x0252	0	1	Alarm - Supply air fan, Power limit
FCAlrExtPoLim		252	1x0253	0	1	Alarm - Exhaust air fan, Power limit
FCAlrSupDVRBlk		253	1x0254	0	1	Alarm - Supply air fan DV-FC Rotor bloked
FCAlrExtDVRBlk		254	1x0255	0	1	Alarm - Exhaust air fan, DV-FC Rotor bloked
DVAlrSupIStop		255	1x0256	0	1	Alarm - Supply air fan1, High Current Stop
DV2AlrSupIStop		256	1x0257	0	1	Alarm - Supply air fan2, High Current Stop
DVAlrExtIStop		257	1x0258	0	1	Alarm - Exhaust air fan1, High Current Stop
DV2AlrExtIStop		258	1x0259	0	1	Alarm - Exhaust air fan2, High Current Stop
AlrComSupFan		499	1x0500	0	1	Common Alarm - supply air fan
AlrComSupFlDu		500	1x0501	0	1	Common Alarm - supply pressure/flow
AlrComExtFan		501	1x0502	0	1	Common Alarm - extract fan
AlrComExtFlDu		502	1x0503	0	1	Common Alarm - extract pressure/flow
AlrComHWPump		503	1x0504	0	1	Common Alarm - circulation pump
AlrComEXC		504	1x0505	0	1	Common Alarm - heat exchanger
AlrComFreeze		505	1x0506	0	1	Common Alarm - frost
AlrComElHeat		506	1x0507	0	1	Common Alarm - electric battery
AlrComTemp		507	1x0508	0	1	Common Alarm - temperature high/low
AlrComSFilt		508	1x0509	0	1	Common Alarm - supply filter
AlrComEFilt		509	1x0510	0	1	Common Alarm - extract filter
AlrComTmpSens		510	1x0511	0	1	Common Alarm - temperature sensor
AlrComCool		511	1x0512	0	1	Common Alarm - cooling
AlrComBDamp		512	1x0513	0	1	Common Alarm Belimo damper
AlrComIntern		513	1x0514	0	1	Common Alarm - internal Modbus error
MBTOutDAct		516	1x0517	0	1	BMS outdoor sensor aktive
MBTRoom1Activ		517	1x0518	0	1	BMS room sensor aktiv
Alr_MBTOutds		519	1x0520	0	1	BMS outdoor sensor out of range
Alr_MBTRoom1		520	1x0521	0	1	BMS room sensor out of range
ExternLowState		521	1x0522	0	1	Input external low speed
StartInpState		522	1x0523	0	1	Status external start input

Input Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
DriftMode		0	3x0001	0	500	Actual operating mode 000-099: Unit stopped 100-199: Unit in low speed mode 200-299: Unit in high speed mode 300-399: Unit in spec. control mode 410-414: Unit in medium speed mode
SupDuctPa	Pa	2	3x0003	0	2000	Actual inlet duct pressure [Pa]
SupDuctPaRgSet	Pa	3	3x0004	0	2000	Setpoint for inlet duct pressure controller [Pa]
ExtDuctPa	Pa	4	3x0005	0	2000	Actual extract duct pressure [Pa]
ExtDuctPaRgSet	Pa	5	3x0006	0	2000	Setpoint for extract duct pressure controller [Pa]
SupFlow	l/s	6	3x0007	0	30000	Actual inlet flow [l/s]
SupFlowRegSet	l/s	7	3x0008	250	30000	Setpoint for inlet flow controller [l/s]
ExtFlow	l/s	8	3x0009	0	30000	Actual extract flow [l/s]
ExtFlowRegSet	l/s	9	3x0010	0	30000	Setpoint for extract flow controller [l/s]
CO2_ppmMeas	ppm	10	3x0011	0	10000	CO2 concentration recorded by CO2 sensor [ppm]
MtrFanSupVin	%	11	3x0012	0	10000	0-10 V DC signal to inlet motor
MtrFanExtVin	%	12	3x0013	0	10000	0-10 V DC signal to extract motor
FAN_SupPrcMeas	%	13	3x0014	0	10000	Voltage on fan optimizer input: inlet signal [1/100%]
FAN_ExtPrcMeas	%	14	3x0015	0	10000	Voltage on fan optimizer input: extract signal [1/100%]
SupFC_MaxFlow	l/s	15	3x0016	100	30000	Inlet FC max. flow [l/s] / [m3/h]
ExtFC_MaxFlow	l/s	16	3x0017	100	30000	Extract FC max. flow [l/s] / [m3/h]
SupTemp	°C	19	3x0020	0	6000	Actual inlet temperature [1/100°C]
SupTempRegSet	°C	20	3x0021	0	4000	Setpoint for inlet temperature controller [1/100°C]
ExtTemp	°C	21	3x0022	0	4000	Actual extract temperature [1/100°C]
ExtTempRegSet	°C	22	3x0023	10	4000	Setpoint for extract temperature controller [1/100°C]
OutDoorTemp	°C	23	3x0024	0	4000	Actual outdoor temperature [1/100°C]
RoomTemp	°C	24	3x0025	0	4000	Actual room temperature [1/100°C]
ExhaustTemp	°C	25	3x0026	0	4000	Actual exhaust temperature [1/100°C]
TempRegMeas	°C	26	3x0027	0	4000	Temp. recorded by actual temperature controller [1/100°C]
TempRegVal	°C	27	3x0028	0	4000	Control value for actual temperature controller [1/100°C]
BattEXC_Temp	°C	28	3x0029	0	6000	Water battery temperature downstream from heat exchanger [1/100°C]
HW_BattTemp	°C	29	3x0030	0	4000	Actual heating battery temperature [1/100°C]
SupFiltPaAvr	Pa	30	3x0031	0	2000	Inlet filter pressure [Pa]
ExtFiltPaAvr	Pa	31	3x0032	0	2000	Extract filter pressure [Pa]
FiltSupFlowAvr	Pa	32	3x0033	0	2000	Average filter supply flow - for internal use only in connection to dynamic filter suveilance [Pa]
SupMotorSet	%	33	3x0034	0	10000	Inlet motor signal setpoint [%]
FiltExtFlowAvr	Pa	34	3x0035	0	2000	Average filter exhaust flow - for internal use only in connection to dynamic filter suveilance [Pa]
ExtMotorSet	%	35	3x0036	0	10000	Extract motor signal setpoint [%]
FiltSupPaAvr	Pa	36	3x0037	0	3000	Average supfilter-pressure [Pa/30]
FiltExtPaAvr	Pa	37	3x0038	0	3000	Average extfilter-pressure [Pa/30]
FiltSupAlrPa	Pa	38	3x0039	0	100	Inlet filter monitor max. alarm limit [Pa] ONLY IN DYNAMIC MODE ("0" IS STATIC MODE)
FiltExtAlrPa	Pa	39	3x0040	0	100	Extract filter monitor max. alarm limit [Pa] ONLY IN DYNAMIC MODE ("0" IS STATIC MODE)
HP_OutdCoilTmp	°C	40	3X0041	0	4000	Actual outdoor temperature near outdoor heat pump parts [1/100°C]
EXCActualEff	%	41	3X0042	0	10000	Heat exchanger efficiency [1/100%]
AtvSupFCType		42	3X0043	0	30000	Inlet ATV frequency converter - Actual FC type
AtvExtFCType		43	3X0044	0	30000	Exhaust ATV frequency converter - Actual FC type
FlwTmpCmpOut	%	49	3x0050	0	10000	Temp. compensated flow setpoint percentage [1/100%]

Input Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
SWTC_ActSetOfs	°C	50	3x0051	-1000	1000	Summer/winter temp. compensation of actual setpoint offset [1/100°C]
SN_HeatTime	Sec	51	3x0052	0	30000	SummerNight Time with Heat Demand [sec]
HeatEXCPower	%	52	3x0053	0	10000	Heat exchange controller heating power [1/100%]
HeatPower	%	53	3x0054	0	10000	Actual heating power [1/100%]
CoolPower	%	54	3x0055	0	10000	Cooling controller power [1/100%]
CoolActPower	%	55	3x0056	0	10000	Actual cooling power [1/100%]
CoolFlwForcePw	%	56	3x0057	0	10000	Cooling forced flow power [1/100%]
CoolVin1Alarm	%	57	3x0058	0	10000	Cooling alarm 1 transducer signal [1/100%]
CoolVin2Alarm	%	58	3x0059	0	10000	Cooling alarm 2 transducer signal [1/100%]
CoolVin3Alarm	%	59	3x0060	0	10000	Cooling alarm 3 transducer signal [1/100%]
CoolVin4Alarm	%	60	3x0061	0	10000	Cooling alarm 4 transducer signal [1/100%]
C_LoPress1Bar	bar	61	3x0062	0	10000	Actual low pressure sensor 1 [1/100 bar]
C_HiPress1Bar	bar	62	3x0063	0	10000	Actual high pressure sensor 1 [1/100 bar]
C_LoPress2Bar	bar	63	3x0064	0	10000	Actual low pressure sensor 2 [1/100 bar]
C_HiPress2Bar	bar	64	3x0065	0	10000	Actual high pressure sensor 2 [1/100 bar]
Heat2Power	%	65	3x0066	0	10000	Heating 2 - Regulator power [1/100%]
FCsupMtrType		69	3x0070	0	256	Inlet motor type (only with OJ-FC)
FCsupMtrFC_SW		70	3x0071	0	1000	Inlet motor software version [1/100] (only with OJ-FC)
FCsupMtrIO_SW		71	3x0072	0	1000	Inlet motor IO card software version [1/100] (only with OJ-FC)
FCsupMtrPrcOut	%	72	3x0073	0	10000	Inlet motor output percentage [1/100%] (only with OJ-FC)
FCsupMtrHzOut	Hz	73	3x0074	0	10000	Inlet motor frequency output [1/100 Hz] (only with OJ-FC)
FCsupMtrIout	mA	74	3x0075	0	30000	Inlet motor actual current output [mA] (only with OJ-FC)
FCsupMtrPowOut	W	75	3x0076	0	6000	Inlet motor actual power output [Watt] (only with OJ-FC)
FCsupMtrPrcSet	%	76	3x0077	0	10000	Inlet motor setpoint [%]
SupSFP	J/m3	77	3x0078	0	10000	Specific fan power (SFP), inlet [W·s/m3 = J/m3] (only with OJ-FC)
FCextMtrType		79	3x0080	0	256	Extract motor type (only with OJ-FC)
FCextMtrFC_SW		80	3x0081	0	1000	Extract motor software version [1/100] (only with OJ-FC)
FCextMtrIO_SW		81	3x0082	0	1000	Extract motor IO card software version [1/100] (only with OJ-FC)
FCextMtrPrcOut	%	82	3x0083	0	10000	Extract motor output percentage [1/100%] (only with OJ-FC)
FCextMtrHzOut	Hz	83	3x0084	0	10000	Extract motor frequency output [1/100 Hz] (only with OJ-FC)
FCextMtrIout	mA	84	3x0085	0	30000	Extract motor actual current output [mA] (only with OJ-FC)
FCextMtrPowOut	W	85	3x0086	0	6000	Extract motor actual power output [Watt] (only with OJ-FC)
FCextMtrPrcSet	%	86	3x0087	0	10000	Extract motor output setpoint [%]
ExtSFP	J/m3	87	3x0088	0	10000	Specific fan power (SFP), extract [W·s/m3 = J/m3] (only with OJ-FC)
EXC_Type		89	3x0090	0	3	Rotary heat exchanger – motor type (only with OJ RHX2M)
EXC_Software		90	3x0091	0	10000	Rotary heat exchanger – software version [1/100] (only with OJ RHX2M)
EXC_PrcOut	%	91	3x0092	0	10000	Rotary heat exchanger – percentage [1/100%]
EXC_RpmOut	rpm	92	3x0093	0	20000	Rotary heat exchanger – speed output [1/100 rpm]
EXC_Iout	mA	93	3x0094	0	10000	Rotary heat exchanger – actual output [mA] (only with OJ RHX2M)
EXC_Power	W	94	3x0095	0	100	Rotary heat exchanger – output power [W] (only with OJ RHX2M)
EXC_DriftDays	days	95	3x0096	0	32000	Rotary heat exchanger – days of operation (only with OJ RHX2M)
EXC_PrcSet	%	96	3x0097	0	10000	Rotary heat exchanger – percentage setpoint [1/100%] (only with OJ RHX2M)
EXTM1_SW_Ver		99	3x0100	0	10000	Extension module 1 software version [1/100]
EXTM2_SW_Ver		100	3x0101	0	10000	Extension module 2 software version [1/100]
PHWMTemp	°C	101	3x0102	0	10000	Actual temperature of pre-heating element [1/100°C]
PH_HeatPower	%	102	3x0103	0	10000	Actual output of pre-heating element [1/100%]
TimeSw-WeekDay		109	3x0110	0	6	Actual day of the week (0=Mon..6=Sun)
ExtDrfDaysLeft		110	3x0111	0	6	Extended operation, remaining number of days
ExtDrfMinLeft	min	111	3x0112	0	1439	Extended operation, remaining number of minutes

Input Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
Alr_Released00		119	3x0120	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released01		120	3x0121	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released02		121	3x0122	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released03		122	3x0123	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released04		123	3x0124	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released05		124	3x0125	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released06		125	3x0126	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released07		126	3x0127	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released08		127	3x0128	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released09		128	3x0129	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released10		129	3x0130	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released11		130	3x0131	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released12		131	3x0132	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released13		132	3x0133	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released14		133	3x0134	0	100	Stack for active alarms (0 indicates end of stack)
Alr_Released15		134	3x0135	0	100	Stack for active alarms (0 indicates end of stack)
MasterSW_Ver		139	3x0140	0	30000	Master software version [1/100]
DisplaySW_Ver		140	3x0141	0	30000	Display software version [1/100]
AlrFireDmpNCls		141	3x0142	0	1	Alarm, Fire damper not closed
AlrFireDmpNOpn		142	3x0143	0	1	Alarm, Fire damper not open
FireDmpTstActv		143	3x0144	0	1	Fire damper test is active
DX_OnTimerRE1	Sec	144	3x0145	0	600	Timer for DX-Cool RE-1 ON-Periode [sec] (ExtMod-Reserve)
DX_OnTimerRE2	Sec	145	3x0146	0	600	Timer for DX-Cool RE-2 ON-Periode [sec] (ExtMod-Reserve)
DX_OnTimerRE3	Sec	146	3x0147	0	600	Timer for DX-Cool RE-3 ON-Periode [sec] (ExtMod-Reserve)
DX_OnTimerRE4	Sec	147	3x0148	0	600	Timer for DX-Cool RE-4 ON-Periode [sec] (ExtMod-Reserve)
HW2BattTemp	°C	149	3x0150	0	4000	Heating 2 - Hydronic battery return temperature [1/100°C]
DX_RestartCnt1		148	3x0149	0	60	Counter for DX-Cool RE-1 starts per hour (ExtMod-Reserve)
DX_RestartCnt3		150	3x0151	0	60	Counter for DX-Cool RE-3 starts per hour (ExtMod-Reserve)
DX_RestartCnt4		151	3x0152	0	60	Counter for DX-Cool RE-4 starts per hour (ExtMod-Reserve)
DX_RestartTim1	Sec	152	3x0153	0	3600	Timer 1 for min. restart period [sec]
DX_RestartTim2	Sec	153	3x0154	0	3600	Timer 2 for min. restart period [sec]
DX_RestartTim3	Sec	154	3x0155	0	3600	Timer 3 for min. restart period [sec]
DX_RestartTim4	Sec	155	3x0156	0	3600	Timer 4 for min. restart period [sec]
FiltSupPrcStat	%	156	3x0157	0	10000	Filter actual alarmstatus for sup-filter [1/100%]
FiltExtPrcStat	%	157	3x0158	0	10000	Filter actual alarmstatus for ext-filter [1/100%]
FiltSupNewPa	Pa	158	3x0159	0	100	Filter pressure for new-filter at actual flow [Pa]
FiltExtNewPa	Pa	159	3x0160	0	100	Filter pressure for new-filter at actual flow [Pa]
AddOnTSensor1	°C	160	3x0161	0	5000	Add on sensor 1 [1/100°C]
AddOnTSensor2	°C	161	3x0162	0	5000	Add on sensor 2 [1/100°C]
AddOnTSensor3	°C	162	3x0163	0	5000	Add on sensor 3 [1/100°C]
AddOnTSensor4	°C	163	3x0164	0	5000	Add on sensor 4 [1/100°C]
ROHStepUpValve	%	164	3x0165	0	10000	Only special customer code: Step-up valve - Output [1/100%]
ROHStepOutVDC	mV	165	3x0166	0	10000	Only special customer code: Step-up valve - Voltage [1/1000 V]
ROHShuntValve	%	166	3x0167	0	10000	Only special customer code: Condenser battery - Output [1/100%]
ROHShuntOutVDC	mV	167	3x0168	0	10000	Only special customer code: Shunt valve - Voltage [1/1000 V]
Humid_OutVDC	V	168	3x0169	0	10000	Output to Steam Humidifier [1/1000 V]
Humid_ActRHSup	%	169	3x0170	0	10000	Actual % rel. Humidity Supply duct
Humid_ActRHExt	%	170	3x0171	0	10000	Actual % rel. Humidity Extract duct

Input Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
RecAltFlowAct		171	3x0172	0	2	Only special customer code: Actual status change flow recirc. - 0=No change; 1=Low to high; 2=High to low
RecClosTimer	Sec	172	3x0173	0	7200	Only special customer code: Actual status timer for lukket recirkulering [Sec]
Ht2DelayTimer	Sec	173	3x0174	0	7200	Only special customer code: Timer delayed Heat2 [Sec]
REXCPressAvg		174	3x0175	0	2000	Only special customer code: Actual press. drop over rotary exch. in exhaust air [Pa]
CombiVDC_Out	V	175	3x0176	0	10000	Multi purpose battery VDC-Signal heat [1/1000 V]
CombiHeatPow	%	176	3x0177	0	10000	Multi purpose battery %-Signal heat [1/100 %]
HeatPmpHeatPow	%	177	3x0178	0	10000	Heat pump efficiency in heat demand. Else CoolPower [1/100 %]
EC2supMtType		178	3x0179	0	256	Only special customer code: EC 2-Inlet/Supply air motor Type
EC2supMtEC_SW		179	3x0180	0	1000	Only special customer code: EC 2-Inlet/Supply air motor Software Ver [1/100]
EC2supBoot_SW		180	3x0181	0	1000	Only special customer code: EC 2-Inlet/Supply air motor Boot Software Ver [1/100]
EC2supMtPrcOut	%	181	3x0182	0	10000	Only special customer code: EC 2-Inlet/Supply air motor percent output [1/100%]
EC2supMtRPMOut	rpm	182	3x0183	0	10000	Only special customer code: EC 2-Inlet/Supply air motor actual RPM [RPM]
EC2supMtIout	mA	183	3x0184	0	30000	Only special customer code: EC 2-Inlet/Supply air motor actual current output [mA]
EC2supMtPowOut	W	184	3x0185	0	7000	Only special customer code: EC 2-Inlet/Supply air motor actual power output [Watt]
EC2supDriftMin	Min	185	3x0186	0	1440	Only special customer code: EC 2-Inlet/Supply air motor actual running time [minutes]
EC2supDriftDay	Day	186	3x0187	0	30000	Only special customer code: EC 2-Inlet/Supply air motor actual running time [days]
EC2supMtPrcSet	%	187	3x0188	0	10000	Only special customer code: EC 2-Inlet/Supply air motor setpoint [1/100%]
EC2extMtType		188	3x0189	0	256	Only special customer code: EC 2-Extract/Exhaust air motor Type
EC2extMtEC_SW		189	3x0190	0	1000	Only special customer code: EC 2-Extract/Exhaust air motor Software Ver [1/100]
EC2extBoot_SW		190	3x0191	0	1000	Only special customer code: EC 2-Extract/Exhaust air motor Boot Software Ver [1/100]
EC2extMtPrcOut	%	191	3x0192	0	10000	Only special customer code: EC 2-Extract/Exhaust air motor percent output [1/100%]
EC2extMtRPMOut	rpm	192	3x0193	0	10000	Only special customer code: EC 2-Extract/Exhaust air motor actual RPM [RPM]
EC2extMtIout	mA	193	3x0194	0	30000	Only special customer code: EC 2-Extract/Exhaust air motor actual current output [mA]
EC2extMtPowOut	W	194	3x0195	0	7000	Only special customer code: EC 2-Extract/Exhaust air motor actual power output [Watt]
EC2extDriftMin	Min	195	3x0196	0	1440	Only special customer code: EC 2-Extract/Exhaust air motor actual running time [minutes]
EC2extDriftDay	Day	196	3x0197	0	30000	Only special customer code: EC 2-Extract/Exhaust air motor actual running time [days]
EC2extMtPrcSet	%	197	3x0198	0	10000	Only special customer code: EC 2-Extract/Exhaust air motor setpoint [1/100%]
ECsupMtrType		199	3x0200	0	256	EC-Inlet/Supply air motor Type
ECsupMtrFC_SW		200	3x0201	0	1000	EC-Inlet/Supply air motor Software Ver [1/100]
ECsupBoot_SW		201	3x0202	0	1000	EC-Inlet/Supply air motor Boot Software Ver [1/100]
ECsupMtrPrcOut	%	202	3x0203	0	10000	EC-Inlet/Supply air motor procent udgang [1/100%]
ECsupMtrRPMOut	rpm	203	3x0204	0	10000	EC-Inlet/Supply air motor actual RPM [RPM]
ECsupMtrIout	mA	204	3x0205	0	30000	EC-Inlet/Supply air motor actual current output [mA]
ECsupMtrPowOut	W	205	3x0206	0	7000	EC-Inlet/Supply air motor actual power output [Watt]
ECsupDriftMin	Min	206	3x0207	0	1440	EC-Inlet/Supply air motor actual running time [minutes]
ECsupDriftDay	Day	207	3x0208	0	30000	EC-Inlet/Supply air motor actual running time [days]
ECsupMtrPrcSet	%	208	3x0209	0	10000	EC-Inlet/Supply air motor setpoint [1/100%]
ECextBoot_SW		209	3x0210	0	1000	EC-Extract/Exhaust air motor Boot Software Ver [1/100]
ECextMtrPrcOut	%	210	3x0211	0	10000	EC-Extract/Exhaust air motor procent udgang [1/100%]
ECextMtrRPMOut	rpm	211	3x0212	0	10000	EC-Extract/Exhaust air motor actual RPM [RPM]
ECextMtrIout	mA	212	3x0213	0	30000	EC-Extract/Exhaust air motor actual current output [mA]
ECextMtrPowOut	W	213	3x0214	0	7000	EC-Extract/Exhaust air motor actual power output [Watt]
ECextDriftMin	Min	214	3x0215	0	1440	EC-Extract/Exhaust air motor actual running time [minutes]
ECextDriftDay	Day	215	3x0216	0	30000	EC-Extract/Exhaust air motor actual running time [days]
ECextMtrPrcSet	%	216	3x0217	0	10000	EC-Extract/Exhaust air motor setpoint [1/100%]
ECextMtrType		217	3x0218	0	256	EC-Extract/Exhaust air motor Type
ECextMtrFC_SW		218	3x0219	0	1000	EC-Extract/Exhaust air motor Software Ver [1/100]

Input Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
SupplyTemp2	°C	219	3x0220	0	4000	Only special customer code: Actual supply inlet temperature2 [1/100°C]
ExtOutDTemp	°C	220	3x0221	-4000	10000	External outdoor temperature sensor [1/100°C]
PHeatTempAir	°C	221	3x0222	-4000	10000	Temperature after pre-heating battery [1/100 °C]
CW_InletTemp	°C	222	3x0223	-4000	10000	Cold water supply temperature for cooling battery [1/100 °C]
RecFreshAirDis	%	223	3x0224	0	10000	Damper position intake/outdoor damper [1/100 %]
RecDampPrcDis	%	224	3x0225	0	10000	Damper position recirkulation [1/100 %]
CoolVDC_Out2	VDC	225	3x0226	0	10000	Output voltage cooling valve2 (only combi battery) [1/1000 V]
AtvExtPower	kW	226	3x0227	0	30000	ATV extract air actual power [1/100 kW]
AtvSupPower	kW	227	3x0228	0	30000	ATV supply air actual power [1/100 kW]
OutFilRestDay		229	3x0230	0	366	Days until timer alarm from the outdoor filter
ExtFilRestDay		230	3x0231	0	366	Days until timer alarm from the extract filter

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
ManDriftMode		0	4x0001	0	3	0=auto, 1=manual stop, 2=manual low, 3=manual high, 6=manual medium
MtrRegMode		1	4x0002	0	6	0=pressure, 1=flow, 2=extract slave, 3=inlet slave, 4=external V DC setpoint, 5=fan optimizer inlet/extract, 6=fan optimizer with extract slave, 7-Green Zone, 8-Green Zone slave, 9-Constant speed
SupDuctPaLoSet	Pa	2	4x0003	0	2000	Setpoint for duct pressure, low inlet [Pa]
SupDuctPaHiSet	Pa	3	4x0004	0	2000	Setpoint for duct pressure, high inlet [Pa]
SupDuctMinFlow	l/s	4	4x0005	0	30000	Min. inlet duct flow [l/s] / [m3/h]
SupDuctMaxFlow	l/s	5	4x0006	0	30000	Max. inlet duct flow [l/s] / [m3/h]
ExtDuctPaLoSet	Pa	6	4x0007	0	2000	Setpoint for low duct pressure, extract [Pa]
ExtDuctPaHiSet	Pa	7	4x0008	0	2000	Setpoint for high duct pressure, extract [Pa]
ExtDuctMinFlow	l/s	8	4x0009	0	30000	Min. extract duct flow [l/s] / [m3/h]
ExtDuctMaxFlow	l/s	9	4x0010	0	30000	Max. extract duct flow [l/s] / [m3/h]
SupLoSpeedSet	l/s	10	4x0011	0	30000	Setpoint for inlet flow, low speed [l/s] / [m3/h]
SupHiSpeedSet	l/s	11	4x0012	0	30000	Setpoint for inlet flow, high speed [l/s] / [m3/h]
ExtLoSpeedSet	l/s	13	4x0014	0	30000	Setpoint for extract flow, low speed [l/s] / [m3/h]
ExtHiSpeedSet	l/s	14	4x0015	0	30000	Setpoint for extract flow, high speed [l/s] / [m3/h]
MtrRegOffset	%	16	4x0017	-5000	5000	Inlet/extract motor offset, slave and CO2 control [1/100%]
CO2_BrugerSetLP	ppm	19	4x0020	0	10000	CO2 control: setpoint for low period (high CO2 value) [ppm]
CO2_BrugerSetHP	ppm	20	4x0021	0	10000	CO2 control: setpoint for high period (high CO2 value) [ppm]
CO2_MinFlow	l/s	21	4x0022	0	30000	CO2 control: min. flow [l/s] / [m3/h]
CO2_MaxFlow	l/s	22	4x0023	0	30000	CO2 control: max. flow [l/s] / [m3/h]
CO2_SupFlwOffs	%	23	4x0024	-5000	5000	CO2 control: inlet flow offset [1/100%]
CO2_AlrLimit	ppm	24	4x0025	100	10000	CO2 concentration alarm limit setpoint [ppm]
CO2_PB	ppm	25	4x0026	10	10000	CO2 control: P-band [ppm]
CO2_I_Time	sec	26	4x0027	10	30000	CO2 control: I-time [sec]
FAN_SupMinFlow	l/s	27	4x0028	0	30000	Fan optimizer inlet control: min. flow [l/s] / [m3/h]
FAN_ExtMinFlow	l/s	29	4x0030	0	30000	Fan optimizer extract control: min. flow [l/s] / [m3/h]
FAN_SupMaxFlow	l/s	28	4x0029	0	30000	Fan optimizer inlet control: max. flow [l/s] / [m3/h]
FAN_ExtMaxFlow	l/s	30	4x0031	0	30000	Fan optimizer extract control: max. flow [l/s] / [m3/h]
FAN_ExtFlwOffs	%	31	4x0032	-5000	5000	Fan optimizer extract control: flow offset [1/100%]
SupMtr_I_Time	sec	32	4x0033	5	1000	Inlet motor control: I-time setpoint [sec]
ExtMtr_I_Time	sec	33	4x0034	5	1000	Extract motor control: I-time setpoint [sec]
SupFlowFireSet	%	34	4x0035	0	10000	Inlet motor speed setpoint in case of fire alarm [%]
ExtFlowFireSet	%	35	4x0036	0	10000	Extract motor speed setpoint in case of fire alarm [%]
HS_AfterRunSet		36	4x0037	0	480	Run-on time, high speed [min]
FlwTmpCmpSet	%	39	4x0040	0	5000	Reduction of flow / percentage of setpoint [1/100%]
FlwTmpCmpStart	°C	40	4x0041	-1000	1500	Reduction of flow / start temp. setpoint [1/100°C]
FlwTmpCmpStop	°C	41	4x0042	-3000	-1000	Reduction of flow / stop temp. setpoint [1/100°C]
DXOutTempMin1	°C	42	4x0043	0	4000	Min. outdoor temperature for activating DX relay no. 1
DXOutTempMin2	°C	43	4x0044	0	4000	Min. outdoor temperature for activating DX relay no. 2
DXOutTempMin3	°C	44	4x0045	0	4000	Min. outdoor temperature for activating DX relay no. 3
DXOutTempMin4	°C	45	4x0046	0	4000	Min. outdoor temperature for activating DX relay no. 4
TimeSw-Year		49	4x0050	2000	2099	Actual year
TimeSw-Month		50	4x0051	1	12	Actual month
TimeSw-Date		51	4x0052	1	31	Actual date
TimeSw-Hour	h	52	4x0053	0	23	Actual hour

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
TimeSw-Minute	min	53	4x0054	0	59	Actual minutes
TimeSw-Second	sec	54	4x0055	0	59	Actual seconds
ExtDrfStartDay		55	4x0056	0	6	Extended operation start – day (0=Mon..6=Sun)
ExtDrfStartMin	min	56	4x0057	0	1439	Extended operation start – time (hours times 60 plus minutes)
ExtDrfStopDay		57	4x0058	0	6	Extended operation stop – day (0=Mon..6=Sun)
ExtDrfStopMin	min	58	4x0059	0	1439	Extended operation stop – time (hours times 60 plus minutes)
TimeSw-DayMode		59	4x0060	0	2	Timer program type (0..2) 0=Mon..Sun, 1=Mon..Fri+weekend, 2=all week
TimeSw-Start00	min	60	4x0061	0	1439	Monday: First period start time [minutes after midnight]
TimeSw-Start01	min	61	4x0062	0	1439	Tuesday: First period start time [minutes after midnight]
TimeSw-Start02	min	62	4x0063	0	1439	Wednesday: First period start time [minutes after midnight]
TimeSw-Start03	min	63	4x0064	0	1439	Thursday: First period start time [minutes after midnight]
TimeSw-Start04	min	64	4x0065	0	1439	Friday: First period start time [minutes after midnight]
TimeSw-Start05	min	65	4x0066	0	1439	Saturday: First period start time [minutes after midnight]
TimeSw-Start06	min	66	4x0067	0	1439	Sunday: First period start time [minutes after midnight]
TimeSw-Start07	min	67	4x0068	0	1439	Monday: Second period start time [minutes after midnight]
TimeSw-Start08	min	68	4x0069	0	1439	Tuesday: Second period start time [minutes after midnight]
TimeSw-Start09	min	69	4x0070	0	1439	Wednesday: Second period start time [minutes after midnight]
TimeSw-Start10	min	70	4x0071	0	1439	Thursday: Second period start time [minutes after midnight]
TimeSw-Start11	min	71	4x0072	0	1439	Friday: Second period start time [minutes after midnight]
TimeSw-Start12	min	72	4x0073	0	1439	Saturday: Second period start time [minutes after midnight]
TimeSw-Start13	min	73	4x0074	0	1439	Sunday: Second period start time [minutes after midnight]
TimeSw-Start14	min	74	4x0075	0	1439	Monday: Third period start time [minutes after midnight]
TimeSw-Start15	min	75	4x0076	0	1439	Tuesday: Third period start time [minutes after midnight]
TimeSw-Start16	min	76	4x0077	0	1439	Wednesday: Third period start time [minutes after midnight]
TimeSw-Start17	min	77	4x0078	0	1439	Thursday: Third period start time [minutes after midnight]
TimeSw-Start18	min	78	4x0079	0	1439	Friday: Third period start time [minutes after midnight]
TimeSw-Start19	min	79	4x0080	0	1439	Saturday: Third period start time [minutes after midnight]
TimeSw-Start20	min	80	4x0081	0	1439	Sunday: Third period start time [minutes after midnight]
TimeSw-Start21	min	81	4x0082	0	1439	Monday: Fourth period start time [minutes after midnight]
TimeSw-Start22	min	82	4x0083	0	1439	Tuesday: Fourth period start time [minutes after midnight]
TimeSw-Start23	min	83	4x0084	0	1439	Wednesday: Fourth period start time [minutes after midnight]
TimeSw-Start24	min	84	4x0085	0	1439	Thursday: Fourth period start time [minutes after midnight]
TimeSw-Start25	min	85	4x0086	0	1439	Friday: Fourth period start time [minutes after midnight]
TimeSw-Start26	min	86	4x0087	0	1439	Saturday: Fourth period start time [minutes after midnight]
TimeSw-Start27	min	87	4x0088	0	1439	Sunday: Fourth period start time [minutes after midnight]
TimeSw-Stop00	min	88	4x0089	1	1440	Monday: First period stop time [minutes after midnight]
TimeSw-Stop01	min	89	4x0090	1	1440	Tuesday: First period stop time [minutes after midnight]
TimeSw-Stop02	min	90	4x0091	1	1440	Wednesday: First period stop time [minutes after midnight]
TimeSw-Stop03	min	91	4x0092	1	1440	Thursday: First period stop time [minutes after midnight]
TimeSw-Stop04	min	92	4x0093	1	1440	Friday: First period stop time [minutes after midnight]
TimeSw-Stop05	min	93	4x0094	1	1440	Saturday: First period stop time [minutes after midnight]
TimeSw-Stop06	min	94	4x0095	1	1440	Sunday: First period stop time [minutes after midnight]
TimeSw-Stop07	min	95	4x0096	1	1440	Monday: Second period stop time [minutes after midnight]
TimeSw-Stop08	min	96	4x0097	1	1440	Tuesday: Second period stop time [minutes after midnight]
TimeSw-Stop09	min	97	4x0098	1	1440	Wednesday: Second period stop time [minutes after midnight]

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
TimeSw-Stop10	min	98	4x0099	1	1440	Thursday: Second period stop time [minutes after midnight]
TimeSw-Stop11	min	99	4x0100	1	1440	Friday: Second period stop time [minutes after midnight]
TimeSw-Stop12	min	100	4x0101	1	1440	Saturday: Second period stop time [minutes after midnight]
TimeSw-Stop13	min	101	4x0102	1	1440	Sunday: Second period stop time [minutes after midnight]
TimeSw-Stop14	min	102	4x0103	1	1440	Monday: Third period stop time [minutes after midnight]
TimeSw-Stop15	min	103	4x0104	1	1440	Tuesday: Third period stop time [minutes after midnight]
TimeSw-Stop16	min	104	4x0105	1	1440	Wednesday: Third period stop time [minutes after midnight]
TimeSw-Stop17	min	105	4x0106	1	1440	Thursday: Third period stop time [minutes after midnight]
TimeSw-Stop18	min	106	4x0107	1	1440	Friday: Third period stop time [minutes after midnight]
TimeSw-Stop19	min	107	4x0108	1	1440	Saturday: Third period stop time [minutes after midnight]
TimeSw-Stop20	min	108	4x0109	1	1440	Sunday: Third period stop time [minutes after midnight]
TimeSw-Stop21	min	109	4x0110	1	1440	Monday: Fourth period stop time [minutes after midnight]
TimeSw-Stop22	min	110	4x0111	1	1440	Tuesday: Fourth period stop time [minutes after midnight]
TimeSw-Stop23	min	111	4x0112	1	1440	Wednesday: Fourth period stop time [minutes after midnight]
TimeSw-Stop24	min	112	4x0113	1	1440	Thursday: Fourth period stop time [minutes after midnight]
TimeSw-Stop25	min	113	4x0114	1	1440	Friday: Fourth period stop time [minutes after midnight]
TimeSw-Stop26	min	114	4x0115	1	1440	Saturday: Fourth period stop time [minutes after midnight]
TimeSw-Stop27	min	115	4x0116	1	1440	Sunday: Fourth period stop time [minutes after midnight]
TimeSw-Mode00		116	4x0117	0	2	Monday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode01		117	4x0118	0	2	Tuesday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode02		118	4x0119	0	2	Wednesday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode03		119	4x0120	0	2	Thursday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode04		120	4x0121	0	2	Friday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode05		121	4x0122	0	2	Saturday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode06		122	4x0123	0	2	Sunday: First period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode07		123	4x0124	0	2	Monday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode08		124	4x0125	0	2	Tuesday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode09		125	4x0126	0	2	Wednesday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode10		126	4x0127	0	2	Thursday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode11		127	4x0128	0	2	Friday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode12		128	4x0129	0	2	Saturday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode13		129	4x0130	0	2	Sunday: Second period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode14		130	4x0131	0	2	Monday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode15		131	4x0132	0	2	Tuesday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode16		132	4x0133	0	2	Wednesday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode17		133	4x0134	0	2	Thursday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode18		134	4x0135	0	2	Friday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode19		135	4x0136	0	2	Saturday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode20		136	4x0137	0	2	Sunday: Third period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode21		137	4x0138	0	2	Monday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode22		138	4x0139	0	2	Tuesday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode23		139	4x0140	0	2	Wednesday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode24		140	4x0141	0	2	Thursday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode25		141	4x0142	0	2	Friday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode26		142	4x0143	0	2	Saturday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed
TimeSw-Mode27		143	4x0144	0	2	Sunday: Fourth period operating mode: 0=OFF, 1=low speed, 2=high speed

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
TempRegMode		147	4x0148	0	3	0=Inlet, 1-Extract, 2=Room, 3=Inlet/extract differential
TempRegSet	°C	148	4x0149	0	4000	Temperature setpoint for actual control type [1/100°C]
SupTempMinSet	°C	149	4x0150	0	1800	Min. limit inlet temperature [1/100°C]
SupTempMaxSet	°C	150	4x0151	2000	5000	Max. limit inlet temperature [1/100°C]
SupTempDiffSet	°C	151	4x0152	100	1500	Setpoint: Temperature differential between inlet and extract Only relevant when TempRegMode is 3 (inlet/extract differential) (constant inlet/extract - differential temperature control) [1/100°C]
SupTempDiffAlr	°C	155	4x0156	200	1500	Alarm limit for temperature differential between inlet setpoint and actual value [1/100°C]
SupTempPB	°C	156	4x0157	200	4000	P-band for inlet temperature control [1/100°C]
SupTempCool_It	sec	157	4x0158	10	30000	I-time for inlet cooling control [sec]
SupTempEXC_It	sec	158	4x0159	10	30000	I-time for inlet heat exchanger control [sec]
SupTempHeat_It	sec	159	4x0160	10	30000	I-time for inlet heating control [sec]
SupTempDnRegIt	sec	160	4x0161	10	30000	I-time for inlet flow reduction in case of low inlet temperature [sec]
ExtTempDiffAlr	°C	164	4x0165	200	1500	Alarm limit for temperature differential between extract setpoint and actual value [1/100°C]
ExtTempPB	°C	165	4x0166	200	4000	P-band for extract temperature control [1/100°C]
ExtTempCool_It	sec	166	4x0167	10	30000	I-time for extract cooling control [sec]
ExtTempEXC_It	sec	167	4x0168	10	30000	I-time for extract heat exchanger control [sec]
ExtTempHeat_It	sec	168	4x0169	10	30000	I-time for extract heating control [sec]
ExtTempDnRegIt	sec	169	4x0170	10	30000	I-time for extract flow reduction in case of low inlet temperature [sec]
ExtTempHeat2It	sec	170	4x0171	10	30000	I-time for heating 2 control [sec]
ExtTempHP_IT	sec	172	4x0173	10	30000	I-time for heat pump control [sec]
SWTC_WintX1	°C	174	4x0175	-3000	0	Summer/winter temp. comp.: low outdoor temp. setpoint, winter [1/100°C]
SWTC_WintX2	°C	175	4x0176	-1000	1000	Summer/winter temp. comp.: high outdoor temp. setpoint, winter [1/100°C]
SWTC_SumX1	°C	176	4x0177	1000	3000	Summer/winter temp. comp.: low outdoor temp. setpoint, summer [1/100°C]
SWTC_SumX2	°C	177	4x0178	2000	4000	Summer/winter temp. comp.: high outdoor temp. setpoint, summer [1/100°C]
SWTC_WintComp	°C	178	4x0179	100	1000	Summer/winter temp. comp.: winter compensation [1/100°C]
SWTC_SumComp	°C	179	4x0180	-1000	1000	Summer/winter temp. comp.: summer compensation [1/100°C]
SW_Mode		184	4x0185	0	4	Summer/winter changeover: 0=OFF (no summer/winter changeover) 1=Changeover determined by outdoor temperature 2=Changeover determined by date 3=Manual summer 4=Manual winter
SW_OutWinterON	°C	185	4x0186	-3000	4000	Outdoor temperature for start of winter operation (SW_Mode = 1) [1/100°C]
SW_OutSummerON	°C	186	4x0187	-3000	4000	Outdoor temperature for start of summer operation (SW_Mode = 1) [1/100°C]
SW_MonthWintON		187	4x0188	7	12	Month for start of winter operation (SW_Mode = 2)
SW_DateWintON		188	4x0189	1	31	Date for start of winter operation (SW_Mode = 2)
SW_MonthSumON		189	4x0190	1	6	Month for start of summer operation (SW_Mode = 2)
SW_DateSumON		190	4x0191	1	31	Date for start of summer operation (SW_Mode = 2)
RecicStartTmp	°C	194	4x0195	500	4000	Startup temperature for recirculation [1/100 °C]
RecicStopTmp	°C	195	4x0196	500	4000	Stop temperature for recirculation [1/100 °C]
SupTempFireAlr	°C	199	4x0200	5000	12000	Setpoint for internal fire alarm in inlet duct [1/100°C]
ExtTempFireAlr	°C	200	4x0201	3500	12000	Setpoint for internal fire alarm in extract duct [1/100°C]
CoolFlwForcePc	%	204	4x0205	0	10000	Increase in fan speed when cooling is active [%]
CoolOutTmpMin	°C	205	4x0206	0	2500	Min. outdoor temperature for start of cooling

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
CoolSupMinTmp	°C	206	4x0207	0	2500	Min. inlet temperature when cooling is active (only with room temp. control)
SN_ExtTmpStart	°C	209	4x0210	1500	4000	Summer night extract/room temp. start [1/100°C]
SN_ExtTmpStop	°C	210	4x0211	1000	3000	Summer night extract/room temp. stop [1/100°C]
SN_OutTmpStart	°C	211	4x0212	500	2000	Summer night outdoor temp. start [1/100°C]
SN_SupTmpSet	°C	212	4x0213	500	2000	Summer night inlet temp. control setpoint [1/100°C]
SN_StartTid	min	213	4x0214	0	1439	Summer night start [min]
SN_StopTid	min	214	4x0215	0	1439	Summer night stop [min]
ExhaustBypass	°C	219	4x0220	0	2000	Min. exhaust temp setpoint for cross-flow heat exchanger [1/100°C]
ExhaustBypasPB	°C	220	4x0221	200	2000	P-band for bypass control of cross-flow heat exchanger [1/100°C]
CExcDeIcePress	Pa	221	4x0222	10	2500	Setpoint for pressure drop across cross-flow exchanger for start of de-icing [Pa]
CExcDeIceTime	Sec	222	4x0223	180	1800	Setpoint for duration of heat exchanger de-icing [sec]
BattEXC_PumpFc		224	4x0225	0	2	Circulation pump mode on heat exchanger battery: 0 –> Pump runs constantly 1 –> Pump runs if heat recovery demand is > 0 (AutoMode) 2 –> Pump runs if outdoor temp. is < temp. setpoint for pump start
BattEXC_PumpSt	°C	225	4x0226	0	4000	Startup temp. setpoint for circulation pump on heat exchanger battery ONLY used if BattEXC_PumpFunc (Address 224) = 2. Pump runs if outdoor temp. is < temp. setpoint for pump start
BattEXC_AlrSet	°C	226	4x0227	0	2000	Temp. differential alarm setpoint for heat exchanger battery Alarm activated if temperature differential (in relation to outdoor temp.) downstream from heat exchanger battery operating at 50% power (or more) is lower than the alarm setpoint
Humid_SupSet	%	227	4x0228	0	10000	Humidity setpoint for selected control type (inlet/exhaust) [1/100%] RH
HW_UpStartPow	%	229	4x0230	0	10000	Heating battery: Startup power setpoint [1/100%]
HW_PumpFunc		230	4x0231	0	2	Circulation pump mode on heating battery: 0 –> Pump runs constantly 1 –> Pump runs if heat demand is > 0 (AutoMode) 2 –> Pump runs if outdoor temp. is < temp. setpoint for pump start
HW_PmpStartTmp	°C	231	4x0232	500	3000	Startup temp. setpoint for circulation pump on heating battery ONLY used if HW_PumpFunc (Address 230) = 2 Pump runs if outdoor temp. is < temp. setpoint for pump start
HW_FrzStopSet	°C	232	4x0233	500	4000	Setpoint for frost protection control when unit is in STOP mode [1/100°C]
HW_FrzDriftSet	°C	233	4x0234	200	2000	Setpoint for frost prot. control when unit is in OPERATING mode [1/100°C]
HW_FreezePB	°C	234	4x0235	200	2000	P-band for frost protection control [1/100°C]
HW_FrzAlrTpSet	°C	235	4x0236	200	2000	Setpoint for frost protection temp. alarm [1/100°C]
HW1PmpStartPrc	%	236	4x0237	0	10000	Heating battery 1 Start circulation pump with %-open valve [1/100%] ONLY used if HW1_PumpFunc (Address 230) = 1 The pump starts when the value is exceeded.
CW_PumpFunc		239	4x0240	0	3	Cooling water pump mode: 0 –> Pump runs constantly 1 –> Pump runs if cooling power is > 0 (AutoMode) 2 –> Pump runs if outdoor temp. > temp. setpoint for pump start
CW_PmpStartTmp	°C	240	4x0241	500	4000	Temp. setpoint for start of cooling battery pump ONLY used if CW_PumpFunc (Address 239) = 2 Pump runs if outdoor temp. is > temp. setpoint for pump start

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
FanOptSupExtIn	%	241	4x0242	0	10000	External signal GreenZone, inlet [1/100%]
FanOptExtExtIn	%	242	4x0243	0	10000	External signal GreenZone, exhaust [1/100%]
FiltSupStatAlr	Pa	244	4x0245	10	500	Alarm limit for pressure drop across intake filter (static mode)
FiltExtStatAlr	Pa	245	4x0246	10	500	Alarm limit for pressure drop across exhaust filter (static mode)
FiltSupDynAlr	%	246	4x0247	1000	10000	Alarm limit for pressure drop across intake filter (dynamic mode)
FiltExtDynAlr	%	247	4x0248	1000	10000	Alarm limit for pressure drop across exhaust filter (dynamic mode)
Alr_MailSetup		249	4x0250	0	3	Alarm email setup 0 –> Emails not sent 1 –> Emails sent for A-alarms 2 –> Emails sent for B-alarms 3 –> Emails sent for A and B-alarms
BrugerRE_Func		250	4x0251	0	3	Alarm relay 2 mode: 0 –> B-alarm 1 –> Low speed indication 2 –> High speed indication 3 -> Medium speed indication
PHStartPrc		251	4x0252	0	30000	Pre-heating element - Start-up output setpoint [1/100%]; when system is in start-up sequence
PHPumpMode		252	4x0253	0	4	Pre-heating element Circulation pump function: 0 –> Pump runs constantly 1 –> Pump runs if heat output is > 0 (AutoMode) 2 –> Pump runs if outdoor temp. is > temp. setpoint for pump start
PHPmpStTmpH		253	4x0254	500	3000	Pre-heating element Start temperature for circulation pump of pre-heating element ONLY used if PHPumpMode (Address 252) = 2 Pump runs if outdoor temp. is < temp. setpoint for pump start
PHStandbyTmp		254	4x0255	500	4000	Pre-heating element Setpoint for frost protection control when system is in STOP mode [1/100°C]
PHFrzDrSetH		255	4x0256	200	2000	Pre-heating element Setpoint for frost protection control when system is in OPERATING mode [1/100°C]
PHeatFrzPB		256	4x0257	200	2000	Pre-heating element P-band for frost protection control [1/100°C]
PHMinAlrFrz		257	4x0258	-4000	10000	Pre-heating element - Frost alarm Setpoint for frost protection temperature alarm [1/100°C]
PHeatSet		258	4x0259	-3000	2000	Pre-heating element - Setpoint inlet duct; just after pre-heating element
HW2UpStartPow		259	4x0260	0	10000	Heating battery 2 - Start-up output setpoint [1/100%]
HW2PumpFunc		260	4x0261	0	3	Heating battery 2 Circulation pump function: 0 –> Pump runs constantly 1 -> Pump runs if heating valve %-open is > value set in address = 262 2 –> Pump runs if outdoor temp. is > temp. setpoint for pump start (address = 261)
HW2PmpStartTmp		261	4x0262	500	3000	Heating battery 2 Start temperature for circulation pump of heating battery 2 ONLY used if WaterPumpFunc (Address 260) = 2 Pump runs if outdoor temp. is < temp. setpoint for pump start

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
HW2PmpStartPrc		262	4x0263	0	10000	Heating battery 2 - Start circulation pump with %-open valve. ONLY used if HW2_PumpFunc (Address 260) = 1 The pump starts when the value is exceeded.
HW2FrzStopSet		263	4x0264	500	4000	Heating battery 2 - Setpoint for frost protection control when unit is in STOP mode [1/100°C]
HW2FrzDriftSet		264	4x0265	200	2000	Heating battery 2 - Setpoint for frost protection control when unit is in OPERATING mode [1/100°C]
HW2FreezePB		265	4x0266	200	2000	Heating battery 2 - P-band for frost protection control [1/100°C]
HW2FrzAlrTpSet		266	4x0267	200	2000	Heating battery 2 - Setpoint for frost protection temperature alarm [1/100°C]
CW_PumpStartPr		267	4x0268	0	10000	Cooling element (hydronic cooling) - Start circulation pump with %-open valve ONLY used if CW_PumpFunc (Address 239) = 1 The pump starts when the value is exceeded.
BattEXCPmpStPr		268	4x0269	0	10000	Heat exchange battery - Start circulation pump with %-open valve. ONLY used if BattEXC_PumpFc (Address 224) = 1 The pump starts when the value is exceeded.
HP_MinOpTemp1		269	4x0270	-4000	4000	Min. outdoor temperature for activating heat pump relay no. 1
HP_MinOpTemp2		270	4x0271	-4000	4000	Min. outdoor temperature for activating heat pump relay no. 2
HP_MinOpTemp3		271	4x0272	-4000	4000	Min. outdoor temperature for activating heat pump relay no. 3
HP_MinOpTemp4		272	4x0273	-4000	4000	Min. outdoor temperature for activating heat pump relay no. 4
CombiUpStPow		274	4x0275	0	10000	Multi-purpose battery - Start-up output setpoint [1/100%]
CombiPumpFunc		275	4x0276	0	3	Multi-purpose battery Circulation pump function: 0 –> Pump runs constantly 1 -> Pump runs if valve %-open is > value set in address = 277 2 –> Pump runs if outdoor temp. is > temp. setpoint for pump start (address = 276)
CombiPmpStTmpH		276	4x0277	500	3000	Multi-purpose battery Start temperature for circulation pump of multi-purpose battery ONLY used if CombiPumpFunc (Address 275) = 2 Pump runs if outdoor temp. is < temp. setpoint for pump start
CombiPmpStPrc		277	4x0278	0	10000	Multi-purpose battery - Start circulation pump with %-open valve ONLY used if CombiPumpFunc (Address 275) = 1 The pump starts when the value is exceeded.
CombFrzStopSet		278	4x0279	500	4000	Multi-purpose battery - Setpoint for frost protection control when system is in Stop mode [1/100°C]
CombFrzDrSetH		279	4x0280	200	2000	Multi-purpose battery - Setpoint for frost protection control when system is in Operating mode [1/100°C]
CombiFrzPB		280	4x0281	200	2000	Multi-purpose battery - P-band for frost protection control [1/100°C]
CombiFrzAlHSet		281	4x0282	200	2000	Multi-purpose battery - Setpoint for frost protection temperature alarm [1/100°C]
BattEXCFrzStop		282	4x0283	-1000	4000	Fluid-coupled battery - Setpoint for frost protection control when unit is in STOP mode [1/100°C]
BattEXCFrzDrf		283	4x0284	-1000	2000	Fluid-coupled battery - Setpoint for frost protection control when unit is in OPERATING mode [1/100°C]
BattEXCFrzePB		284	4x0285	200	2000	Fluid-coupled battery - P-band for frost protection control [1/100°C]
BattEXCFrzASet		285	4x0286	-1000	2000	Fluid-coupled battery - Setpoint for frost protection temperature alarm [1/100°C]
CombiBattTemp	C	286	4x0287	0	4000	Multi purpose battery - Actual return temperature [1/100°C]
HW12VDCOutFunc		287	4x0288	0	1	Only special customer code: Heat battery 1, step2 output (Out 1,2): Valve actuator type 0->0-10V, 1->2-10V
HW12_VDCOut	mV	288	4x0289	0	10000	Only special customer code: Heat battery 1, step2 output (1,2) VDC out
Ht2LimitTyp		289	4x0290	0	2	Only special customer code: Heat2 limiting type 1Room, 2 Outdoor
Ht2StLimRTemp	C	290	4x0291	-500	0	Only special customer code: Startdifference temperature [1/100°C]
Ht2StLimRPer	%	291	4x0292	1000	10000	Only special customer code: Stepsize limiting roomtemp [1/100%]
Ht2StLimOTemp	C	292	4x0293	-2000	2000	Only special customer code: Blocking of Heat2 Outdoortemp [1/100°C]

Holding Registers

NAME	UNIT	ADDRESS	REGISTER	MIN.	MAX.	REMARKS
Ht2SetDelTime	Sec	293	4x0294	0	7200	Only special customer code: Timeset delayed Heat 2 [Sec]
Ht2FlowOffset	%	294	4x0295	-5000	5000	Only special customer code: in % of Flow if Heat2 is on [1/100%]
NO_CStopRTemp	C	295	4x0296	0	3000	Only special customer code: Stop cooling over roomtemperature [1/100°C]
REXDeIcePerc		296	4x0297	3000	10000	Only special customer code: Pressure percent over calibration
NO_FAirCoolBlk	C	297	4x0298	-4000	2000	Only special customer code: Stop temperature freshair cooling [1/100°C]
RecFlowShift		299	4x0300	0	2	Only special customer code: Set Change Airflow Recirce
RecClosDStTemp	C	300	4x0301	-1000	2000	Only special customer code: Temperature for start with open damper [1/100°C]
REXAlrLPrcFrz	%	301	4x0302	0	20000	Only special customer code: Alarmlevel in percent if froozen [1/100%]
REXAlrLPrcDus	%	302	4x0303	0	10000	Only special customer code: Alarmlevel in percent, if dusty[1/100%]
HW1RiseT100	Sec	303	4x0304	120	7200	Only special customer code: Risetime 0..100%, in sec [Sec]
ROHRiseT100	Sec	304	4x0305	120	7200	Only special customer code: Timeset for CO2 DX-Cooling-Aggregate from 0 ..100% [Sec]
SNSupCoolFlw	m3/h	305	4x0306	0	32000	Setpoint supply air volume sommernight cooling
SNExtCoolFlw	m3/h	306	4x0307	0	32000	Setpoint extract air volume sommernight cooling [m3/h]
SNSupCoolPa	Pa	307	4x0308	0	2500	Setpoint supply air pressure sommernight cooling [Pa]
SNExtCoolPa	Pa	308	4x0309	0	2500	Setpoint extract air pressure sommernight cooling [Pa]
SNSupCoolPrc	%	309	4x0310	0	10000	Setpoint supply air constant speed sommernight cooling [1/100%]
SNExtCoolPrc	%	310	4x0311	0	10000	Setpoint extract air constant speed sommernight cooling [1/100%]
SNSlvOffsPrc	%	311	4x0312	-5000	5000	sommernight cooling slave offset [1/100%]
CO2_MaxModRec	ppm	313	4x0314	0	2000	Only special customer code: Max CO2 (Store mode) [ppm]
CO2_MinModRec	ppm	314	4x0315	0	2000	Only special customer code: Min CO2 (Store mode) [ppm]
SupMedSpeedSet	l/s	319	4x0320	0	30000	Set point supply air flow - medium speed [l/s] / [m3/h]
ExtMedSpeedSet	l/s	320	4x0321	0	30000	Setpoint exhaust air flow - medium speed [l/s] / [m3/h]
SupDuctPaMeSet	Pa	321	4x0322	0	2000	Setpoint supply air duct pressure medium speed [Pa]
ExtDuctPaMeSet	Pa	322	4x0323	0	2000	Setpoint exhaust air duct pressure medium speed [Pa]
CO2_UserSetMP	ppm	323	4x0324	0	10000	CO2 controller setpoint medium speed (HI CO2 Val) [ppm]
BMSDrfCtrlReg		499	4x0500			11 = BMS stop 105 = BMS low speed 210 = BMS high speed 211 = BMS sommernight cooling 220 = BMS night heating mode (Recirkulation) 414 = BMS medium speed
MBT_OutDoor	°C	500	4x0501	-6000	6000	BMS outdoor temperatur [1/100°C]
MBT_Room1	°C	501	4x0502	-4000	4000	BMS room temperatur [1/100°C]

TROX® TECHNIK

The art of handling air

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