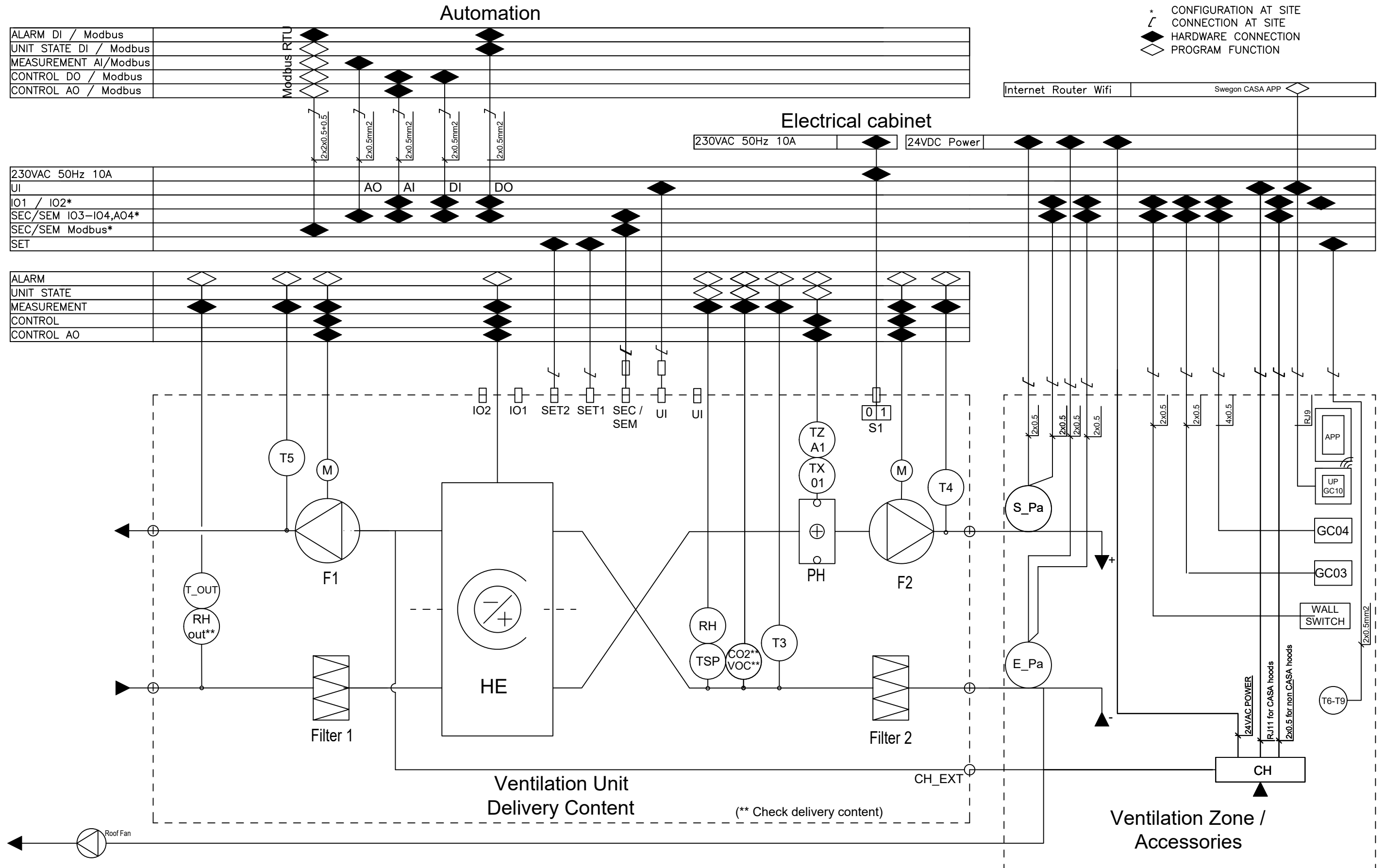


FUNCTIONAL DIAGRAM Ventilation unit



SUUNN. XX	VERSIO. 2.16
PVM. 1.6.2026	
ALLEKIRJOITUS	

DIAGRAM
SWEGON CASA
Ventilation unit

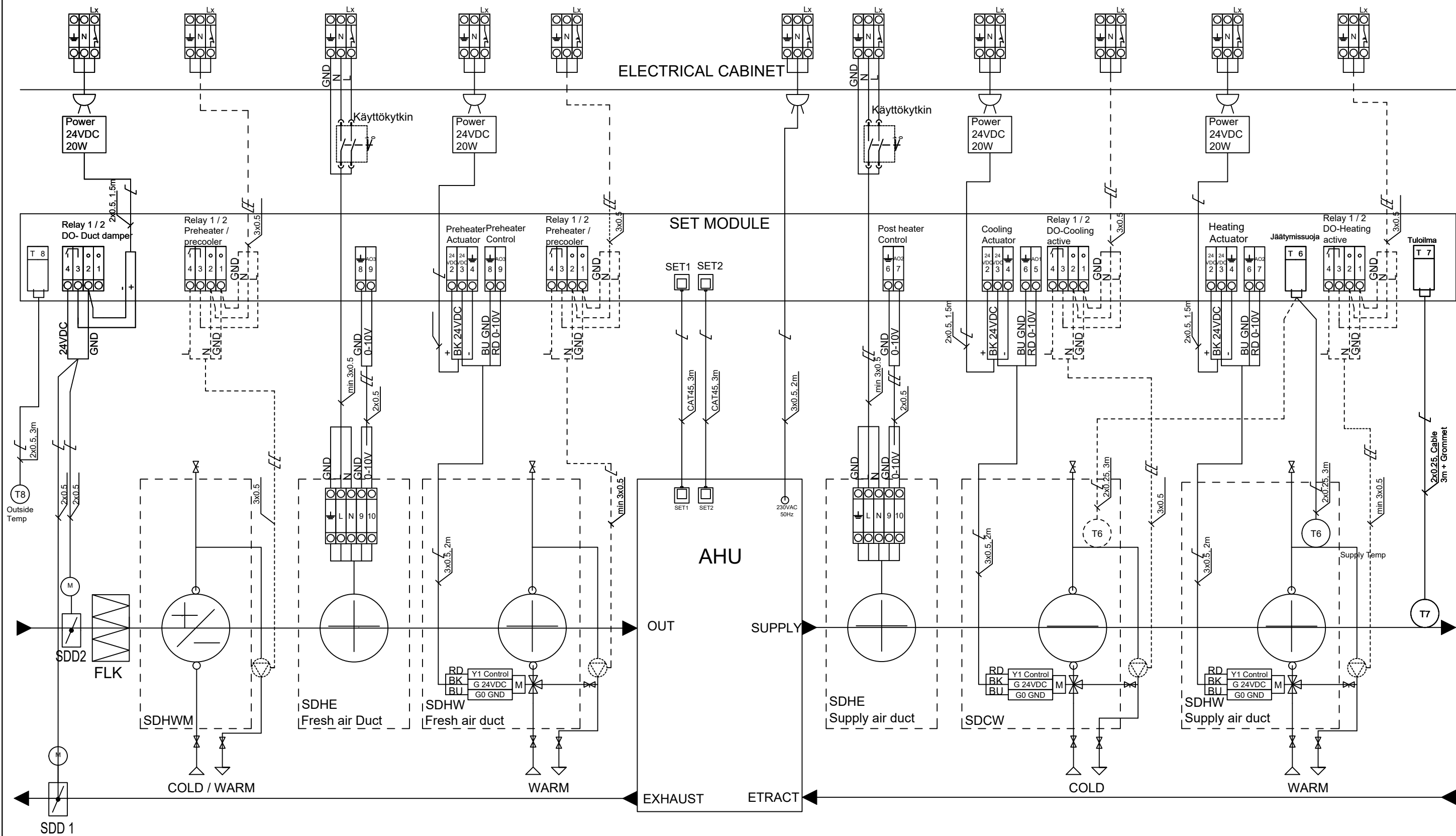
R4C Sorption Genius

LVI

LEHTI	LEHDISTÄ 1/7	TILAAJAN N:O
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FUNCTIONAL DIAGRAM Duct accessories

└ CONNECTION AT SITE, CABLES INCLUDED IN DELIVERY
└└ CONNECTION AND CABLES AT SITE



SUUNN.	XX	VERSIO.	2.16
PVM.	1.6.2026		
ALLEKIRJOITUS			

DIAGRAM
SWEGON CASA
Duct Accessories

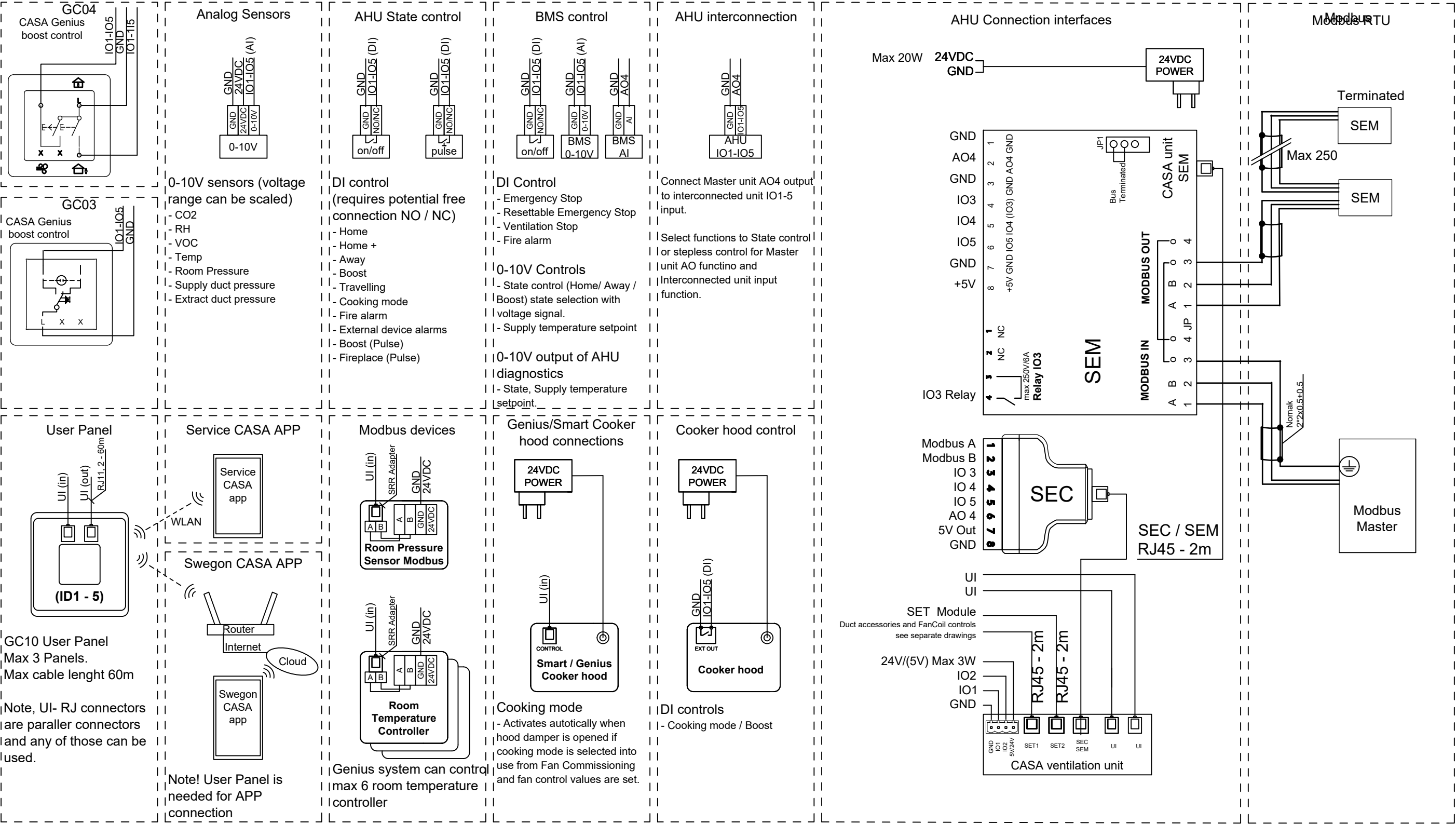
**R4C Sorption
Genius**

SUUNNITTELUALA, TYÖN JA PIIRUSTUKSEN N:O	LEHTI	LEHDISTÄ	MUUTOS
LVI		2 / 7	
TILAAJAN N:O			

DEVICE LIST Ventilation unit

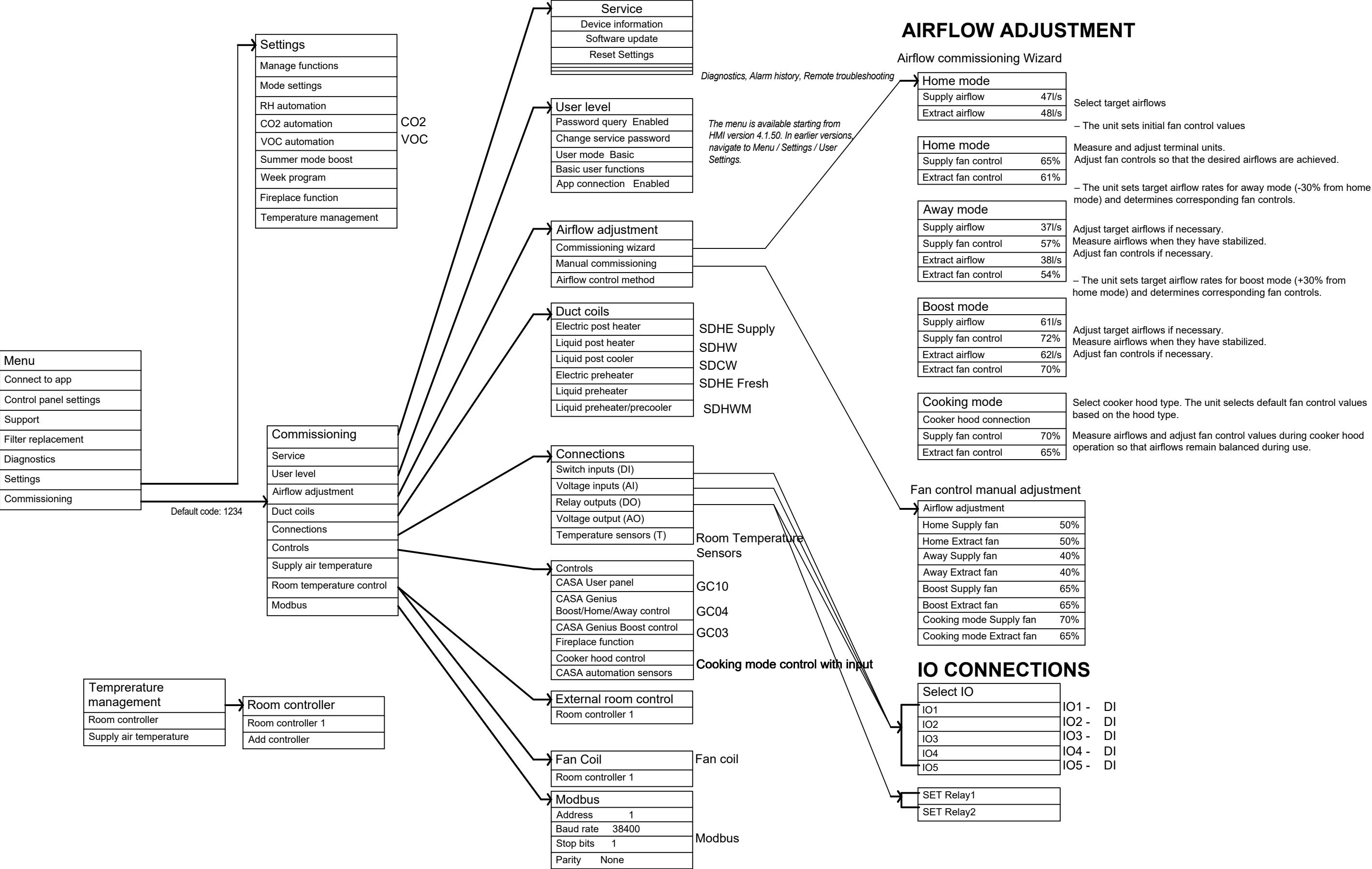
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	PVM. 1.6.2026					LVI		
	ALLEKIRJOITUS					LEHTI	LEHDISTÄ 3 / 7	TILAAJAN N:O

AHU External Connections



Note! External connection must be configured by using the control panel or by modbus. Commissioning menu code is 1234 by default.

CONFIGURATION



SUUNN.	XX	VERSIO.	2.16
PVM.			
1.6.2026			
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CONFIGURATION SWEGON CASA		R4C Sorption Genius		SUUNNITTELUALA, TYÖN JA PIIRUSTUKSEN N:O		MUUTOS	
				LVI			
				LEHTI	LEHDISTÄ	TILAAJAN N:O	
					5 / 7		

FUNCTIONAL DESCRIPTION GENIUS CONTROL SYSTEM

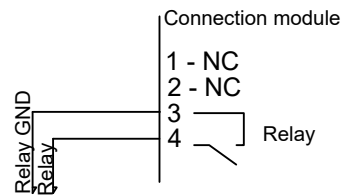
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	PVM. 1.6.2026					LVI		
	ALLEKIRJOITUS					LEHTI	LEHDISTÄ 6 / 7	TILAAJAN N:O

DEVICE LIST Accessories

Device ID	Description
CO2	Carbon dioxide sensor, function: CO2 automation
VOC	VOC sensor, function: VOC automation
T6-T9	Temperature sensor. Connection to SET module. The sensor must be defined in the control panel.
SEM	Modbus extension module (includes 2 m RJ-45 cable)
SEC	IO extension module (includes 2 m RJ-45 cable)
SET	Connection module for duct heater actuators and temperature sensors (includes 2 × 3 m RJ-45 cables)
SDCW	Cooling coil for the supply air duct (includes SET, Power24VDC20W, three-way valve + actuator, duct coil, sensors)
SDHE	Electric heating coil for outdoor/supply air duct (includes SET, duct coil, sensors) Note! A duct filter (FLK) is required for the preheater.
SDHW	Heating coil for the supply air duct (includes SET, Power24VDC20W, three-way valve + actuator, duct coil, sensors)
SDHWM	Ground source duct coil for preheating/cooling in the outdoor air duct (includes SET, duct coil, sensor)
FLK	Duct filter for use with the electric preheater (SDHE)
SD1, SD2	Duct damper for outdoor air / exhaust air duct
S_PA,E_PA	Constant duct pressure control for supply / exhaust air duct. Note Power24VDC20W must supplied separately.
GC10	Genius control panel, which can be connected via Wi-Fi to the Swegon CASA app.
GC04	Control switch for selecting boost, home, and away modes.
GC03	Control switch for selecting boost modes.
CH	Cooker hood. The CASA hood is connected to the ventilation unit with a modular cable. Other cooker hoods can control the cooker hood function via a switch input defined for this function.
SWITCH	Control switch, occupancy sensor, fireplace switch, and pressure switch for controlling various functions (Away, Boost, Fireplace, Stop functions)

Functional diagram Room temperature control
Fan Coil 2-Pipe system

24VAC Relay connection to SET and SEC/SEM module



Season selection with external system

Season state
signal from heating
system

Digital input

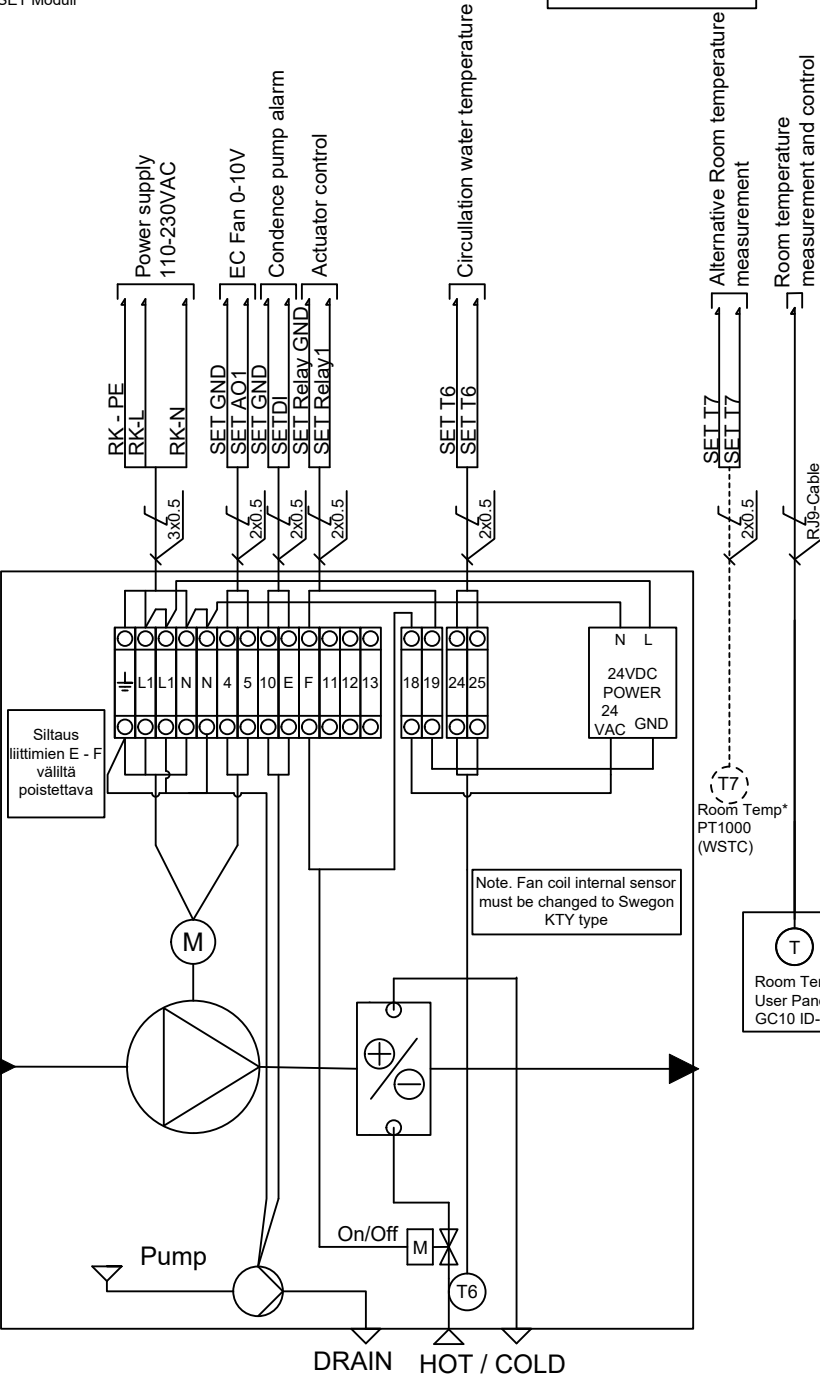
GIO1- GIO5
GND

Modbus control
Allow heating by
writing value 2 to
register 4x5034 and
allow cooling by
writing value 1

FAN COIL 1

Ilmanvaihtokoneen
kytkentärapiinta:
SET Moduli

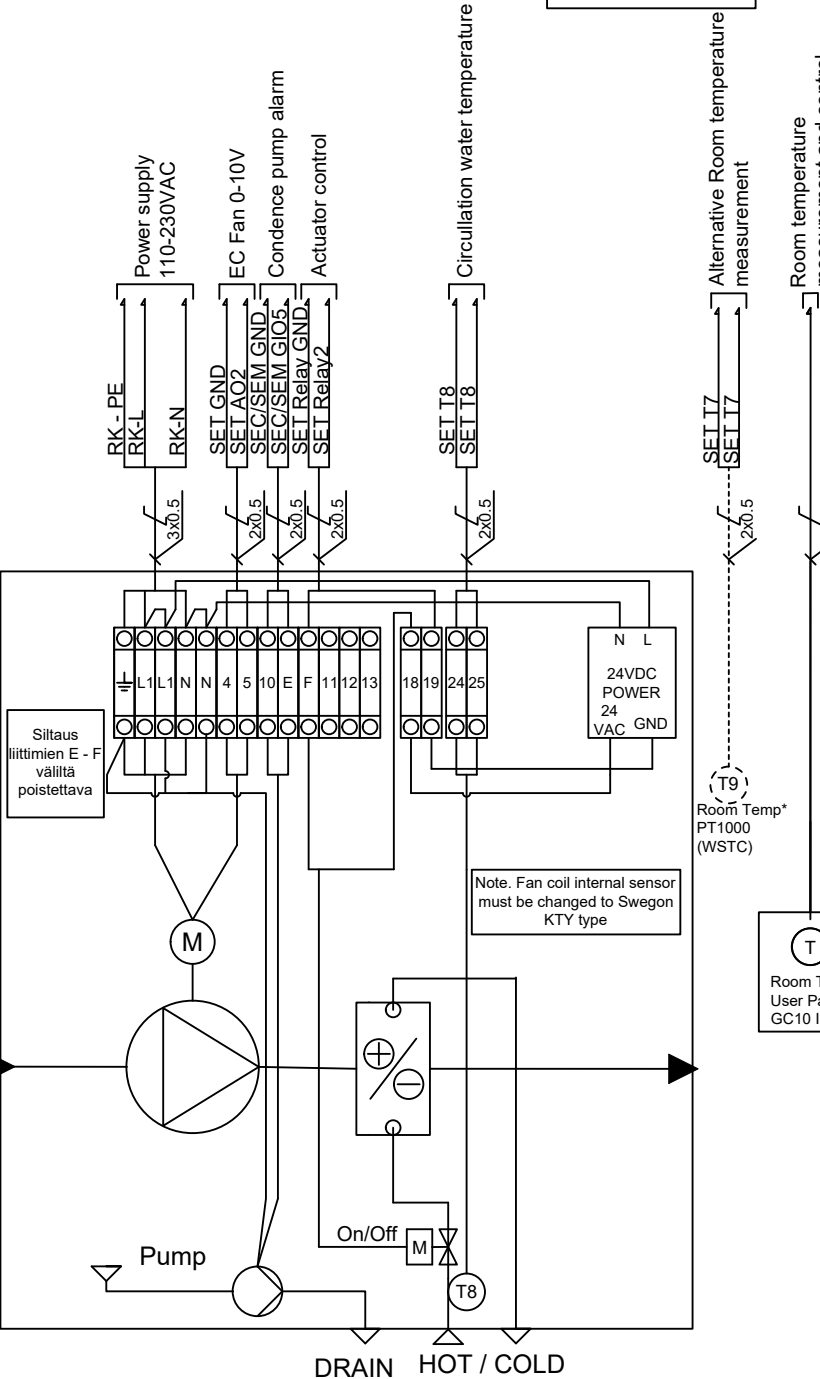
Note. Temperature sensor
connection to SET Module
requires sensor connector
cable.



FAN COIL 2

Ilmanvaihtokoneen
kytkentärapiinta:
SET + SEC tai SEM Moduli

Note. Temperature sensor
connection to SET Module
requires sensor connector
cable.

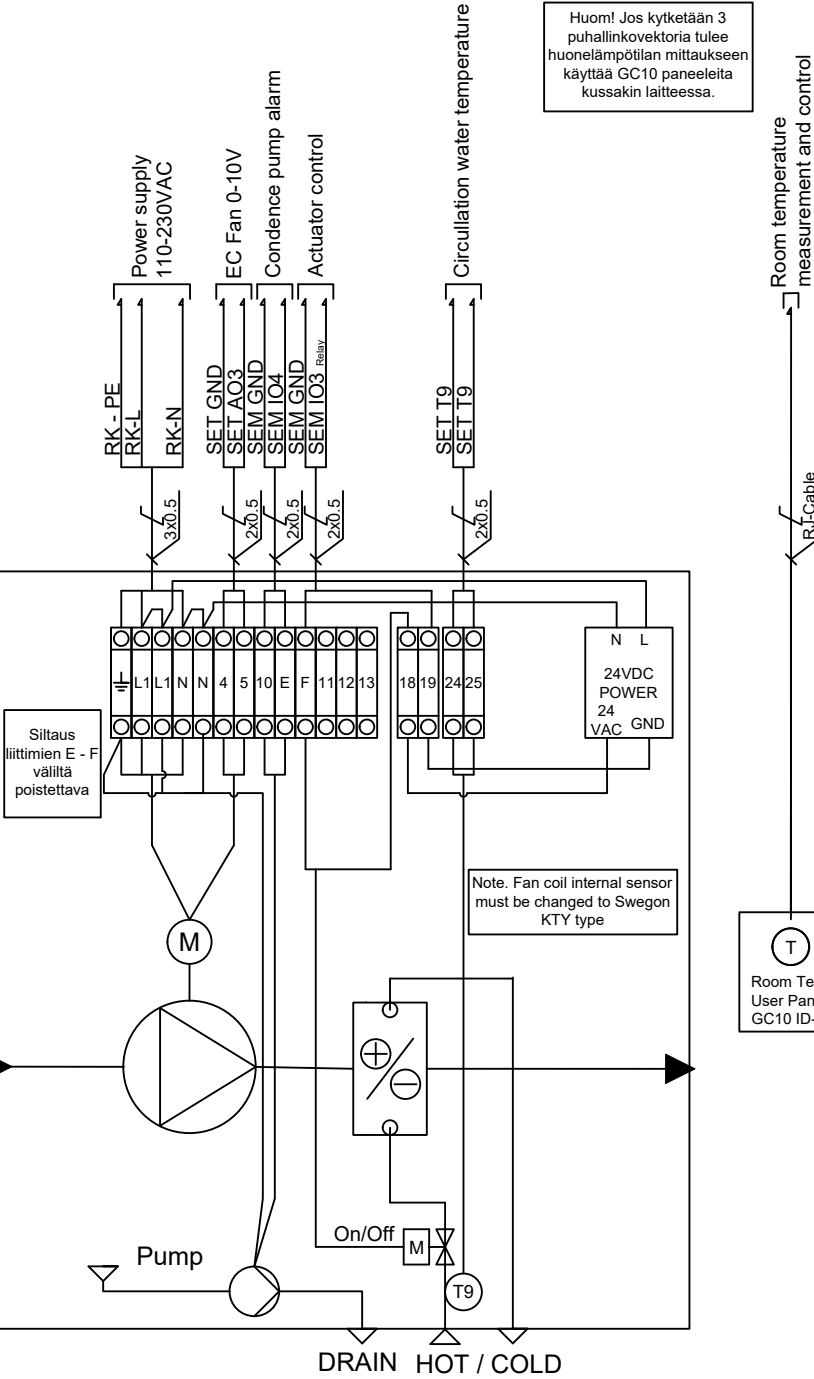


FAN COIL 3

Ilmanvaihtokoneen
kytkentärapiinta:
SET + SEM Moduli

Note. Temperature sensor
connection to SET Module
requires sensor connector
cable.

Huom! Jos kytketään 3
puhallinkonevektoria tulee
huonelämpötilan mittaukseen
käyttää GC10 paneeleita
kussakin laitteessa.



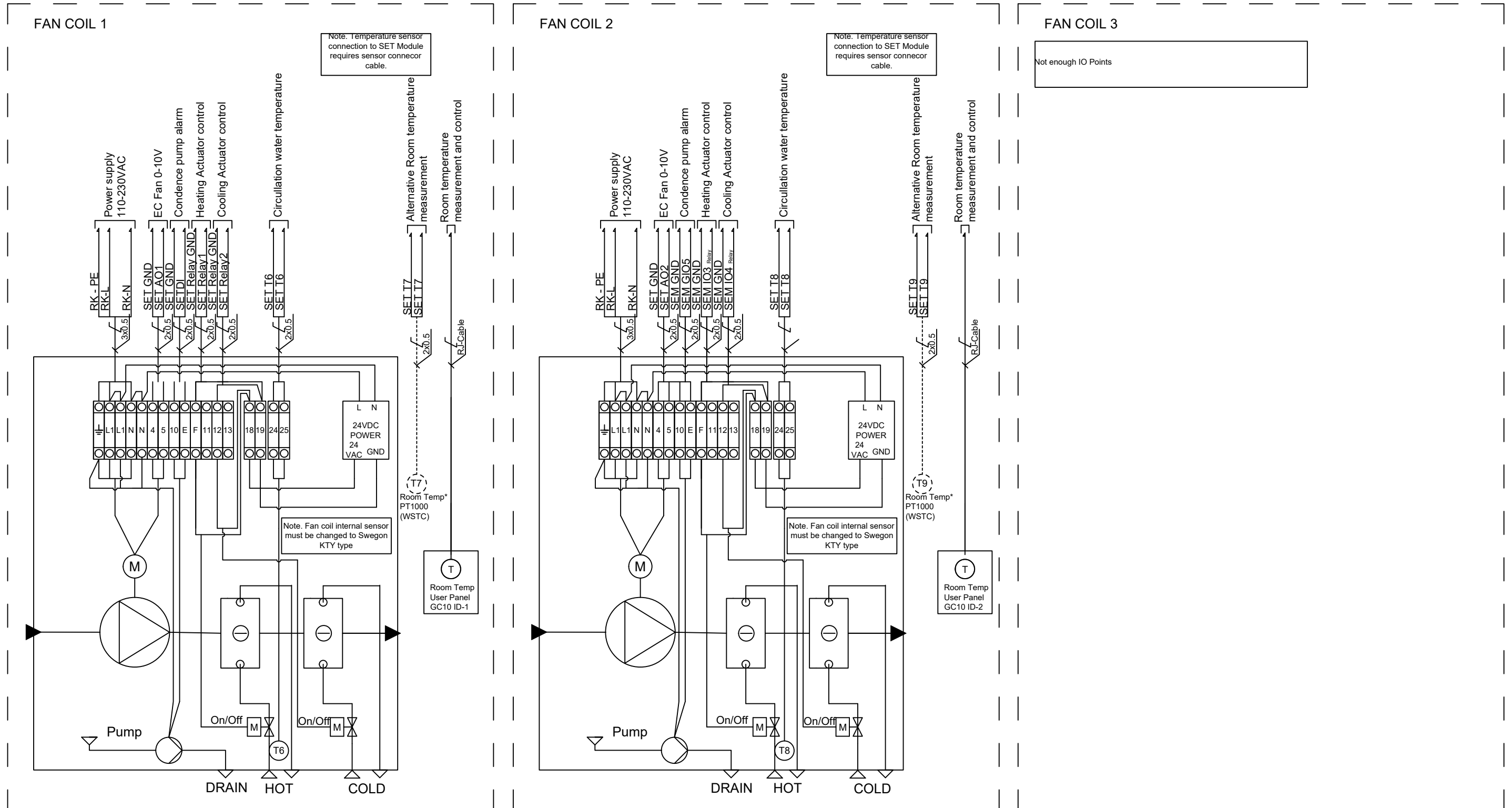
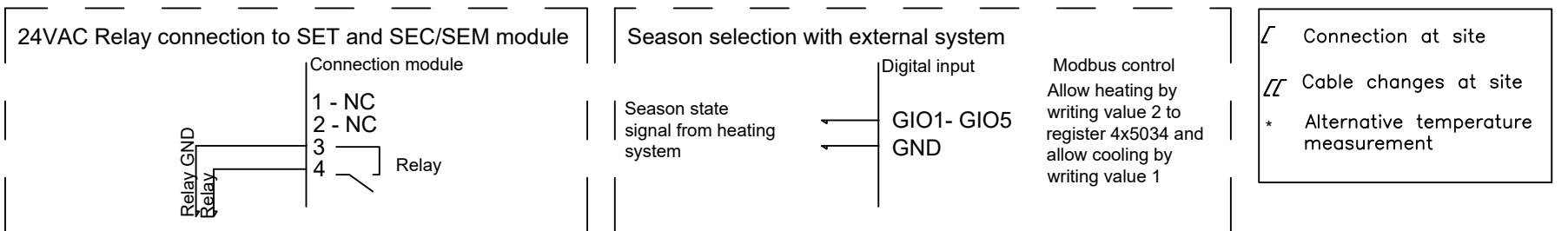
SUUNN.	VERSIO.
XX	2.16
PVM.	1.6.2026
ALLEKIRJOITUS	

DIAGRAM
SWEGON CASA
FAN COIL

SUUNNITTELUALA, TYÖN JA PIIRUSTUKSEN N:O	MUUTOS
LVI	
LEHTI	LEHDISTÄ 1 / 3
TILAAJAN N:O	

Functional diagram Room temperature control

Fan Coil 4-Pipe system



Functional description room temperature controller

General

The room temperature control function of the air handling unit can control up to three room temperature controllers. The temperature controllers are independent of each other except for some common functions. The room temperature controller can control cooling, heating, or both, and additionally control the fan to boost cooling or heating as needed. Room temperature is measured using the CASA Genius control panel. The control panel can be set to room temperature controller mode, where only the setpoint, measured temperature, and related settings are visible. The panel can be locked into this mode with a password so the user cannot access other settings. During cooling season, temperature increase can be selected, and during heating season, temperature decrease can be selected when the air handling unit is in away mode. This helps save energy by changing the unit's mode as needed. This can also be automated, for example, with the CO₂ function.

Connection interface of the air handling unit

For room temperature control, a maximum of 4 pcs 0–10 V outputs, 2+5 pcs relay outputs, and 1+5 pcs digital inputs are available. Note that 5 of the outputs/inputs are configurable, so the number depends on configuration. The connection diagrams show examples, but each I/O must be defined during commissioning, where their location can also be changed.

Actuators of the room temperature controller

The room temperature controller controls a heating/cooling actuator. The actuator can be ON/OFF or PWM type, in which case control is via an intermediate relay. (Note: when using PWM control, observe the maximum switching frequency of the relay.) The actuator can also be controlled with a 0–10 V control signal (min and max voltages adjustable). The actuator can control heating, cooling, or both in 2-pipe systems. Alternatively, it can control both heating and cooling in 4-pipe systems, in which case two actuators are controlled. By default, the system measures circulation water temperature, allowing heating or cooling when the water temperature exceeds/falls below the heating and cooling set limits (adjustable). Note: in 4-pipe systems only the hot water circulation temperature is measured, so the cooling limit must be set high enough to activate cooling regardless of hot water temperature.

Fan control

Fan control is via a 0–10 V control signal. Min and max voltages can be set, as well as a neutral-state control voltage when neither heating nor cooling is active. When heating or cooling is active, fan speed is boosted according to the room temperature controller's demand. A boost threshold can be set, defining when the fan starts boosting. For example, with a threshold of 20%, the controller operates the actuator 0–20% with the fan at minimum speed. When the output exceeds 20%, the fan starts boosting so that when the controller output reaches 100%, the fan also runs at set maximum speed. The user can influence fan speed by selecting a silent mode, limiting fan speed to minimum. This is available only for a limited time (max. 6h). The user can also select a boost mode (active 2h), in which case the fan runs at maximum speed regardless of temperatures – useful for passive cooling/ventilation.

Cooling / Heating season selection

Season selection can be made automatically by measuring circulation water temperature. After detecting heating or cooling demand, the valve is fully opened, and then the system waits until the water temperature exceeds/falls below the set threshold. If insufficient, the valve closes and a 2h delay occurs before repeating the test. If no water temperature measurement is available, the selection can be made via an I/O input or controlled via Modbus RTU. Season selecion can also be made from the control panel, allowing manual activation of heating or cooling.

Room temperature controller

Room temperature is regulated by a PI controller, measuring with the CASA Genius panel, a separate wall-mounted PT1000 sensor, or an internal Swegon PTC sensor. The setpoint can be selected from the panel. The user-selectable range can be limited at commissioning (+18 C ... +25 C). Setpoint adjustment can also be limited when the unit is in Away or Travel modes by defining an increase/decrease offset (default 0 °C). Controller response can be tuned in the commissioning menu (P-gain and I-time).

Diagnostics

The controller operation can be monitored via the panel's diagnostics menu or Swegon CASA APP, where room temperature trend data is visible.

Alarms

Condensation alarm (cooling coils only): A digital input can be assigned to condensation function. When activated, cooling is stopped. If active for 2h, a condensation risk alarm is shown on the panel.

Circulation water temperature alarm: When the sensor is in use, an alarm is triggered if water temperature is insufficient within 5min.

Switching the control panel to room control mode

The control panel can be switched to room control mode after commissioning. Note: the control panel installed in the room must be connected and assigned a unique ID in the panel settings. During commissioning, select the panel defined as the room temperature measurement source.

To enable room control mode, the panel user level must be set to “Extended” (modifiable in commissioning menu). Room control mode can then be selected from the main view. One of up to three room controllers or ventilation can be chosen. Once selected, the visible functions can be configured for the user. These can then be locked via the commissioning menu by switching the user level to “Basic”.

	SUUNN. XX	VERSIO. 2.16		DESCRIPTION SWEGON CASA FAN COIL	SUUNNITTELUALA, TYÖN JA PIIRUSTUKSEN N:O MUUTOS		
	PVM. 1.6.2026				LVI		
	ALLEKIRJOITUS				LEHTI	LEHDISTÄ 3 / 3	TILAAJAN N:O