

Commissioning instructions for the product range

ESENSA



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Symbols and abbreviations



RX

ROTARY EXCHANGER



PF

PLEATED FILTER



PX

PLATE HEAT EXCHANGER



BW

BACKWARD CURVED FAN



WARNING !



OUTDOOR AIR (1)



EXTRACT AIR (2)



-

COOLING COIL



+

HEATING COIL



MOTORISED DAMPER



ELECTRICAL HEATING COIL



Must be connected by a qualified electrician.
Warning! Hazardous voltage.



EXHAUST AIR (3)

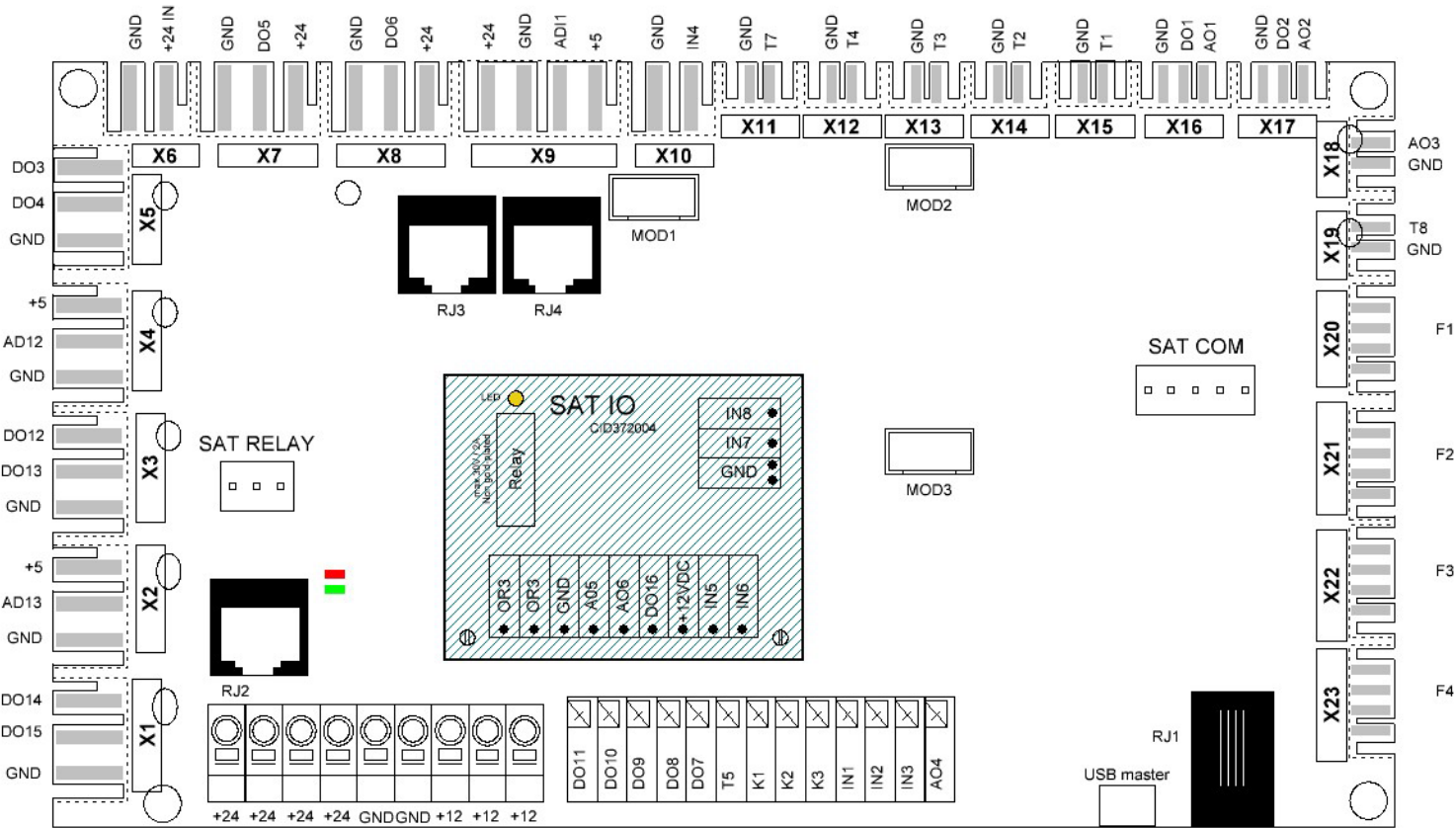


SUPPLY AIR (4)

Glossary

AUCTe	Exhaust air hood with protective grid	IBA	Built-in water coil - postheating
AUCTi	Intake hood with protective grid	IRS	Circular/rectangular adapter
BA	Base frame	Kit CA	Kit Constant Airflow
CT	Motorised damper (circular, rectangular)	Kwin	Built-in electrical coil - preheating
DX	Direct expansion	Kwout	Built-in electrical coil - postheating
EBA	Non-isolated external water coil	MK2	2-way mixing box
ECA	Insulated integrated casing	MK3	3-way mixing box
GA	Aspiration grid	MS	Flexible connection
GD	Silencer	OUT	Roof for outdoor installation
GF	Filter	SC	Slip-clamp connection
GR	Double deflection grid	VEX	Roof for outdoor installation
		VK	Multi-leaf damper

1. Main board



AO1 = output 0-10V for external hydraulic postheater (option)	T1 = from outdoors T° sensor (prewired)
DO1 = KWout = output PWM for KWout power regulation (option)	T2 = from indoors T° sensor (prewired)
DO2 = KWIn- PX: output PWM for KWIn power regulation (option) RX SPEED PWM - RX	T3 = to outdoors T° sensor (prewired)
AO2 = RX SPEED 0-10V - RX (option)	T5 = supply T° sensor
AO3 = 0-10 V output to control cooling capacity	T7 = IBA/EBA anti freeze protection T° sensor (option)
AO4 = output 0-10V for internal hydraulic postheater (option)	T8 = Cooling coil frost protection sensor
DO3 = BYPASS OPEN- PX (with rotary actuator) (prewired)	IN1 + 12/24V = FIRE ALARM
DO4 = BYPASS CLOSE - PX (with rotary actuator) (prewired)	IN2 + 12/24V = BOOST
DO5 = DAMPER 1 (with or without spring return, I _{max} = 0.5A DC) (option)	IN3 + 12/24V = BYPASS ACTIVATION OVERRIDE
DO6 = DAMPER 2 (with or without spring return, I _{max} = 0.5A DC) (option)	
DO7 = HEAT OUTPUT (open collector; V _{max} =24 VDC; I _{max} =0,1 A)	K1: Airflow MODE = m³/h K1
DO8 = COOL OUTPUT (open collector; V _{max} =24 VDC; I _{max} =0,1 A)	Demand/Pressure control = START/STOP
DO9 = ALARM OUTPUT (open collector; V _{max} =24 VDC; I _{max} =0,1 A)	Torque MODE = %torque K1
DO10 = AL dPA OUTPUT (open collector; V _{max} =24 VDC; I _{max} =0,1 A)	K2: Airflow control = m³/h K2
DO11 = FAN ON OUTPUT (open collector; V _{max} =24 VDC; I _{max} =0,1 A)	Demand/Pressure control = 0-10V INPUT
AD11 = BYPASS POS - PX RX SPEED FEEDBACK - RX (prewired)	Torque control = %torque K2
AD12 = SUPPLY FILTER dPa (prewired)	K3: Airflow control = m³/h K3
AD13 = EXTRACT FILTER dPa (prewired)	Demand/Pressure control = % ON K3 or 0-10 V INPUT
F1 = FAN 1 (SUPPLY)	Torque control = %torque K3
F3 = FAN 3 (EXHAUST)	RJ1 = RJ12 connector for TACtouch (option)
SAT COM = SAT MODBUS or SAT KNX or SAT WIFI-ETHERNET- (option)	RJ2 = RJ12 connector for Modbus Pressure CP mode (option)
GREEN LED ON = POWERED ON	RJ3 = Free
RED LED ON = ALARM	RJ4 = RJ12 connector for Modbus Pressure CA mode (prewired) and defrost detecting (option)

2. Commissioning

As a human machine interface (HMI), several options are available. The HMI will enable access to the control parameters in the integrated controller. The HMI as such does not contain any programming and therefore is not mandatory. The possible HMIs are:

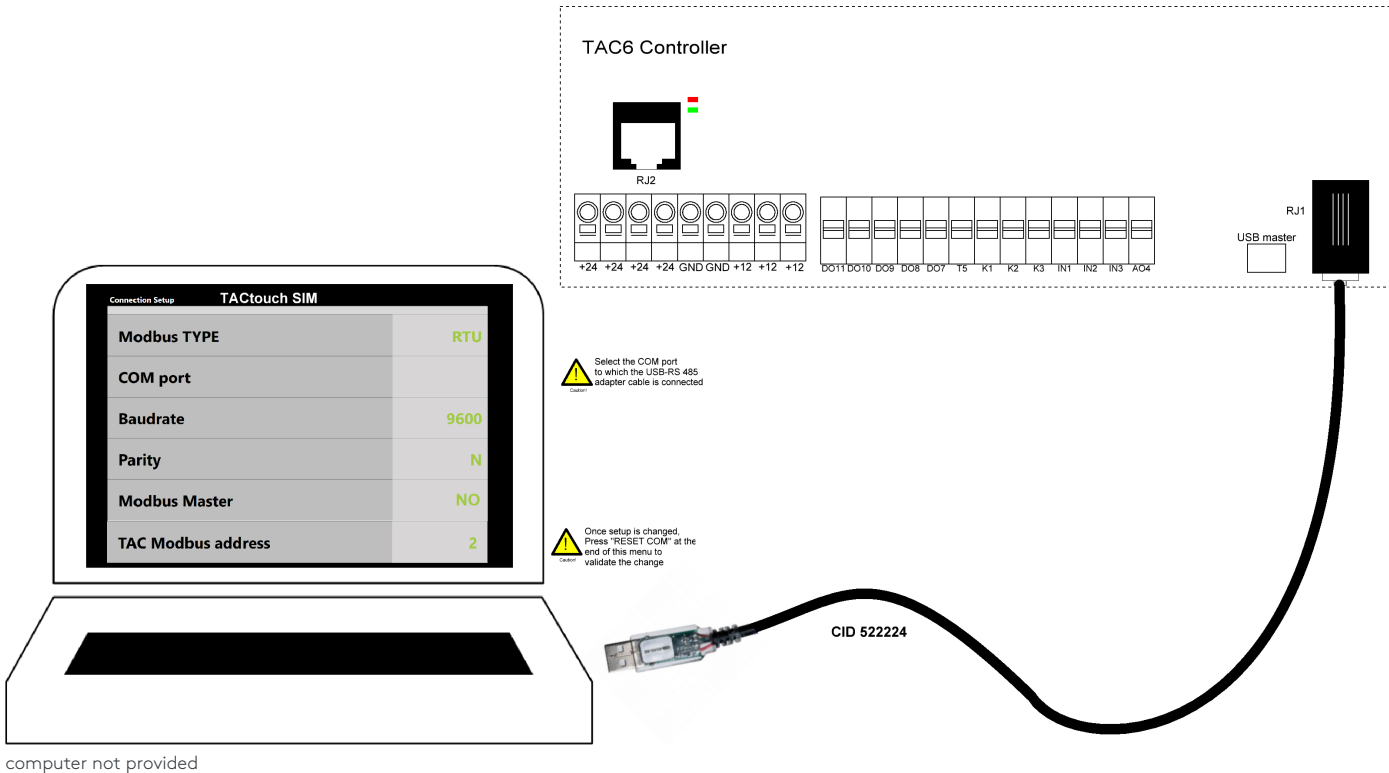


TACtouch touchscreen (option)

This 4.3" touchscreen display is used when there is a need for a graphical HMI. The touchscreen is a complete graphic monitoring system where the screens are designed to be intuitive and complete, ensuring a userfriendly experience.

SOFTWARE TACtouch SIMULATOR

- Total control and configuration of the unit (under Windows 7-8-10).
- USB RS 485 cable adapter required. Alternatively, can be used with SAT WIFI-ETHERNET extra board
- Same principle, navigation, menu and commissioning method as TACtouch.



computer not provided

2.1 Commissioning with TACtouch interface

The hand-held terminal consists of a 4.3" touch screen with a 1,5 metre long cable for connection to the air handling unit's control circuit board.

If the hand-held terminal is not used for 20 minutes, it switches over to the sleep mode.

The Touchscreen controller can be used outdoors, but it must be kept at a weatherproof place.

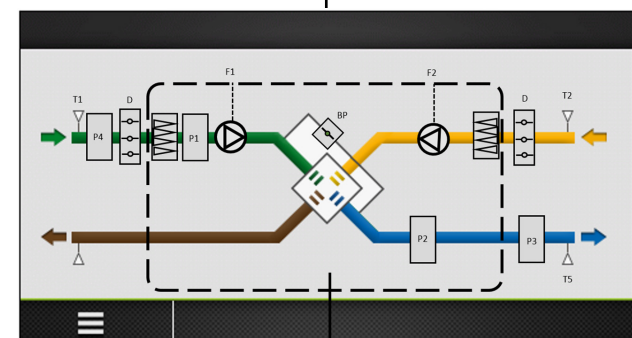
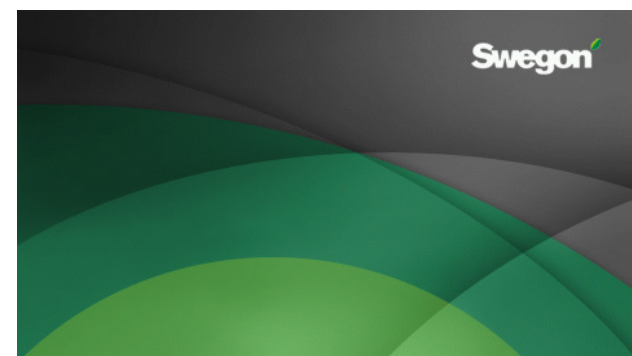
Data:

Operating temperature:	0... + 50°C
Maximum length of the cable:	<=100 metres
Protection class:	IP20
Dimensions [mm]:	144x97x20
Power consumption:	1,8 VA

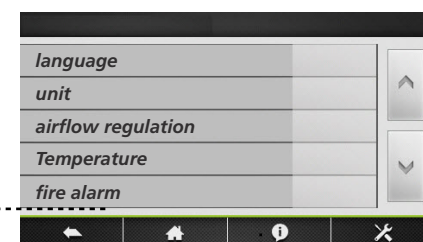
IMAGE MANAGEMENT

TACtouch simulator available on our website www.swegon.com (Category Products and TACtouch simulator)

Start-up image



At the first start up, the basic setup menu will be activated automatically. See section 2.1.3. With also advanced parameter for master selection "contacts K1-K2-K3 master" (see point 2.1.4): set no only if the AHU is to be controlled with TACtouch control screen rather than with electrical contacts (see point 2.1.2). After the commissioning, a message box will propose to set date and time and eventually switch automatically to the corresponding screen (see section "Time and Date" at point 2.1.2)



Home Screen. See Section 2.1.1.

By default, the home screen will be shown if no other menu is opened by the user or if selected in the main menu.

N.B.! The appearance of the image varies depending on the type of air handling unit and functions selected.

Main menu. See Section 2.1.2.

The main menu is presented as a rotary menu. After pressing the "menu"-button at the bottom left corner of the Home Screen, the rotary menu will be shown.

2.1.1 Home screen

The home screen displays the current key data for the air handling unit and is shown is normally displayed if no other menu has been selected or if selected from the main menu. The touch screen switches to the sleep mode after 20 minutes. To leave the sleep mode, press on the touchscreen.

On the main screen, the fields are:

- Status indication

The indicated status are: Heating, Cooling, Post ventilation, Freecooling, Frost protection.

- Current date and time
- Active alarms

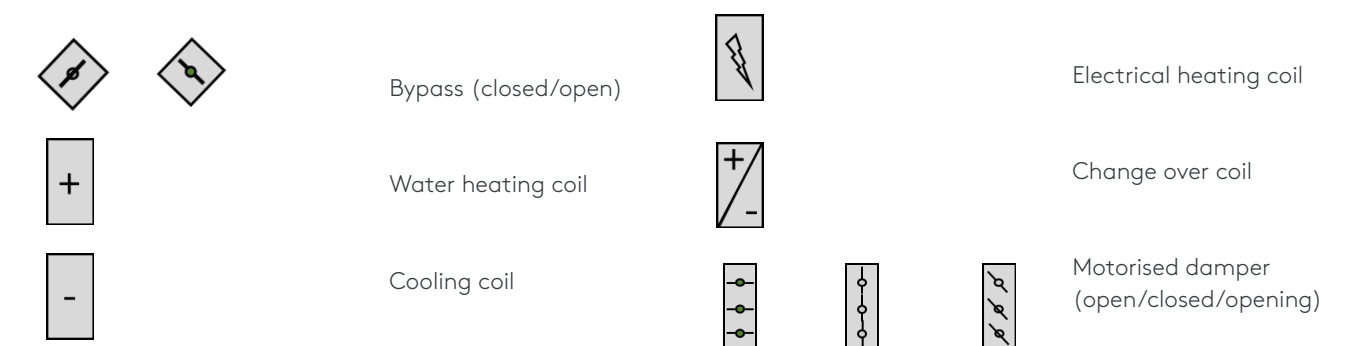
This fields shows the number of current alarms. By clicking on this field, more detailed information about the different alarms is available

- Menu

Accessing the main menu, see section 2.1.2

- Flow Chart

The flow chart is not editable by the user, the configuration of the activated options and functions is done through the product setup (menu). A code and a special training are desired for access to this menu. The appearance of the image varies depending on the type of air handling unit and its selected functions and/or options. Flow chart symbols:



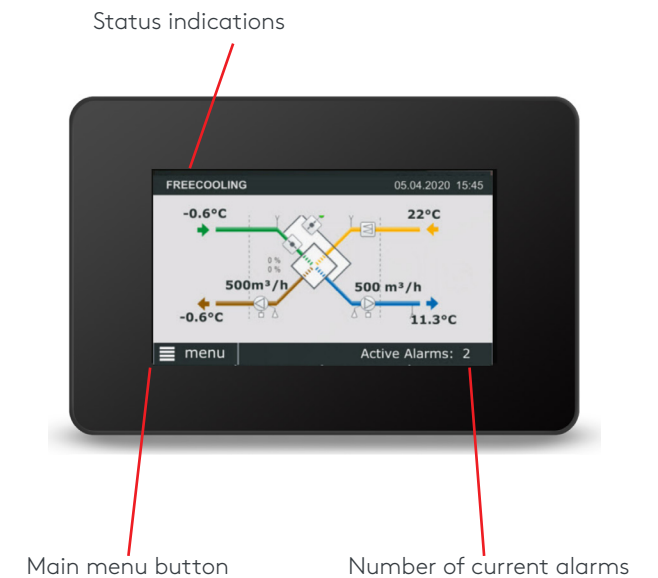
Flow charts:



Plate heat exchanger



Rotary heat exchanger

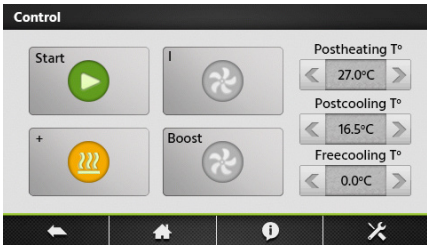


2.1.2 Main menu

The main menu consists of a rotary menu with 7 icons.

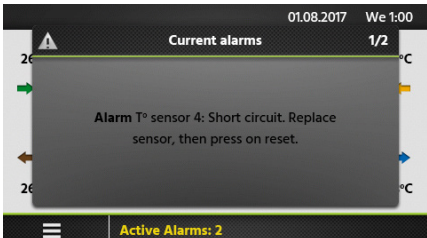
Control

The control menu will allow for the user to change basic parameters and operation status of the unit.
The unit can be started or stopped
The fan speed can be selected; three manual speeds + one auto speed
Post heating, post cooling and free cooling setpoints can be changed.
Heat/Cool activation if corresponding option present.



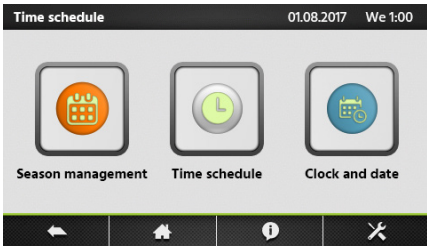
Alarm

Alarms are displayed on the main screen of the HMI. Active alarms can be viewed in this menu. All the alarms can be reset.
A fault can be traced by examining the function or functional component indicated in the alarm text. More information about the individual alarms (in the corresponding operation & maintenance manual).
If the fault cannot be immediately remedied:
Consider whether the air handling unit can continue to operate until the fault has been remedied.



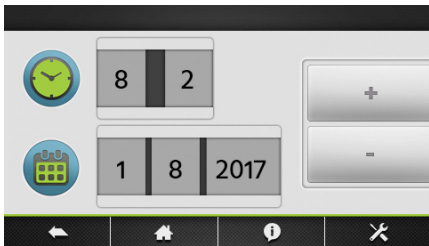
Time schedule

The built-in timer enables you to control the AHU's operating mode/time. Certain other oversteering functions such as external timer, communication, etc. affect the preset operating modes. The controller allows 6 time slots (channels) to be configured.



Time and date

The current date and time must be set and adjusted after the commissioning and later on if needed. The timer automatically takes leap years into consideration. .



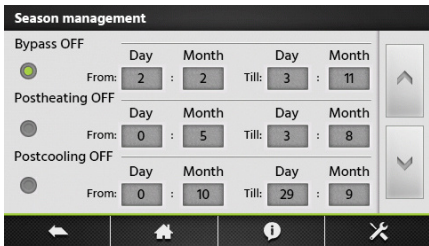
Time schedule

Times and days can be set when the air handling unit is to run in the high speed mode, medium speed mode, low speed mode or be switched off. For each day (Monday - Sunday), six different time slots can be configured. The time slots are subsequent.



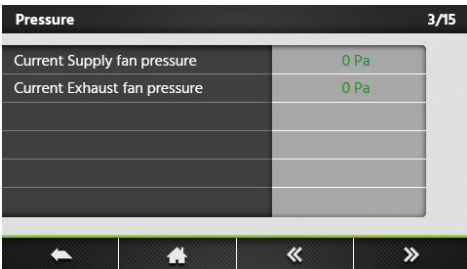
Seasonal management

The seasonal management menu allows for the deactivation of heating coils, cooling coils and bypass freecooling function based upon a year calendar. In between the programmed interval, the selected function is OFF.



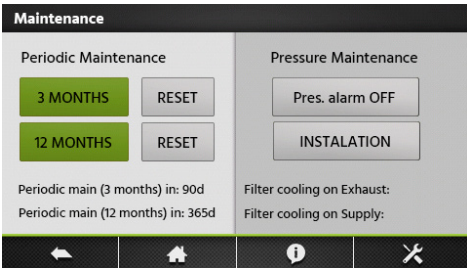
Readings

The operating status and the Settings can be read. Used for performance checks and for generally checking Settings, power consumption, etc. No Settings can be altered in this menu group.



Maintenance

Configuration of service related settings. A maintenance warning interval can be configured as well as the filter clogging alarm.



Settings/Basic Setup

The basic setup menu will guide the user through the most critical settings of the air handling unit. This setup procedure is described in detail, section 1.1.3



Settings/Advanced setup

A code and a special training are desired for access to this menu (see its description in Advanced setup section here below).



Settings/Product setup

A code and a special training are desired for access to this menu. In Addition, it has to be previously enable in advanced settings thanks to parameter "Enable Setup" (see its description in Advanced setup section here below)



2.1.3 Basic setup

When the air handling unit is started up for the first time, the commissioning menu is automatically displayed. At the very end of the commissioning (menu) the commissioning of the unit has to be confirmed by the service technician. Once the commissioning has been confirmed, the commissioning menu will not be displayed as first menu any more. The commissioning menu, however, will remain accessible through the advanced setup. See Section 2.1.4.

Language

The language desired can be set here. The language setting can be changed at any time in the basic setup menu.

Setting	Settings range	Factory setting
Language	Languages as displayed	English

Units

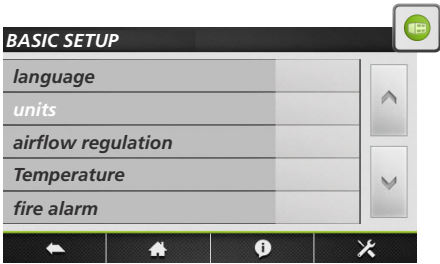
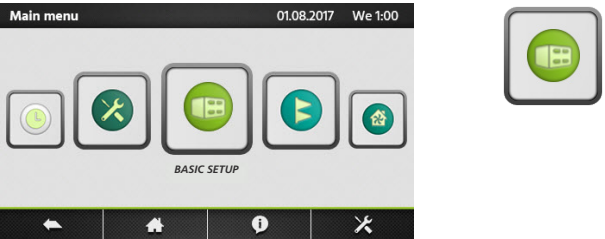
The desired unit can be set here. The unit setting can be changed at any time in the basic setup menu.

Setting	Settings range	Factory setting
Unit	m³/h l/s	m³/h

Airflow regulation

The desired control mode can be set here. The setting can be changed at any time in the basic setup menu. Depending on the selected function, flows can be set as (l/s, m³/h), pressure (Pa), input signal strength (%) or torque (%). For both “Airflow control” and “Torque control”, three setpoints are available: Low, medium and high.

Setting	Settings range	Factory setting
Operating mode	OFF Airflow Demand control Pressure Torque	Airflow



Constant airflow

Flow control involves operating the air handling unit to keep the preset airflow constant. The speed of the fans is automatically regulated to provide correct airflow even if the filters become clogged, diffusers are blocked, etc. The exhaust air fan is controlled as a slave. A ratio between exhaust and supply pressure can be configured in order to create over, under or balanced pressure. For units with backward fans, constant airflow can only be selected if the “constant air kit” has been ordered as an option. The desired setpoint is preset in (l/s, m³/h).

Setting	Range	Factory setting
Airflow K1/K2/K3	0...max	
Ratio exhaust/supply	5...999%	100%
Enable pressure alarm	No Yes	Yes
DP Supply/Exhaust for pressure alarm	25...999Pa	200Pa
Initialisation airflow	(l/s, m³/h)	
Pressure alarm initialisation	No Yes	Yes

Torque control

3 torque setpoints to be configured by the user (%TQ K1, %TQ K2, %TQ K3). The setpoint is configured in % of the maximal torque. The exhaust air fan is controlled as a slave. A ratio between exhaust and supply pressure can be configured in order to create over, under or balanced pressure. The desired setpoint is preset in %. The Torque control mode can be deactivated in the advanced setup.

Setting	Range	Factory setting
Airflow K1/K2/K3	0...100%	
Ratio exhaust/supply	5...999%	100%

Demand control

The airflow desired is regulated in response to 0-10 V input signals from an external sensor, such as a carbon dioxide or a humidity sensor. The function can be configured with a positive or a negative logic. A ratio between exhaust and supply pressure can be configured in order to create over, under or balanced pressure. The desired setpoint is preset in (l/s, m³/h). The “sleep factor” is a lower operating rate for the unit (due to e.g. low occupancy) that will be activated by speed “III”

Setting	Range	Factory setting
Vmin	0...10V	1,0V
Vmax	0...10V	10,0V
m³/h ~Vmin	(l/s, m³/h)	
m³/h ~Vmax	(l/s, m³/h)	
Ratio exhaust/supply	5...999%	100%
Sleep factor on K3	10...100%	100%
Enable pressure alarm	No Yes	Yes
DP Supply/Exhaust for pressure alarm	10...999Pa	200Pa
Initialisation airflow	(l/s, m³/h)	
Pressure alarm initialisation	No Yes	Yes

Constant pressure

The airflow automatically varies to provide constant pressure in the ducting. The duct pressure is measured by an external in-duct pressure sensor which is connected to the control unit’s BUS communication or the an analogue 0...10V input. The function can be configured on supply air, extract air or supply and extract air. The first two configurations will have the second set of fans be controlled as a slave. A ratio between exhaust and supply pressure can be configured in order to create over, under or balanced pressure. The initialisation will allow for an automatic calculated pressure setpoint, determined by the nominal airflow. The “sleep factor” is a lower operating rate for the unit (due to e.g. low occupancy) that will be activated by speed “III”

Setting	Range	Factory setting
Control	Supply Exhaust Supply+Exhaust	Supply
Ratio exhaust/supply	5...999%	100%
Sleep factor on K3	10...100%	100%
Pressure initialisation	Via Airflow Via Pressure	Airflow
Start reference initialisation	Yes No	Yes

Temperature

The temperature control can be configured as a supply air control or an extract air control. By default, this function is configured as a supply air temperature control. Changes to this configuration are done in the advanced setup; see Section 2.1.4

Setting	Settings range	Factory setting
T° heating	0...45°C	20,0°C
T° Cooling	0...99°C	24,0°C
T° Freecooling	0...99°C	15°C

Fire Alarm

An external fire detection system is used to control the air handling unit in case of emergency. The fire alarm function is activated by means of digital input IN1.

Setting	Settings range	Factory setting
Input	Normally open Normally closed	Normally closed
Supply airflow	0...max	
Extract airflow	0...max	

Damper

Indicates the presence of air inlet dampers. In this case, a start-up delay will be automatically activated.

Setting	Settings range	Factory setting
Damper	Yes/No	No

Periodic maintenance

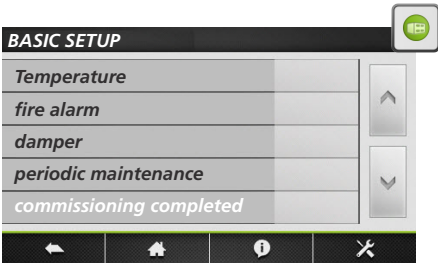
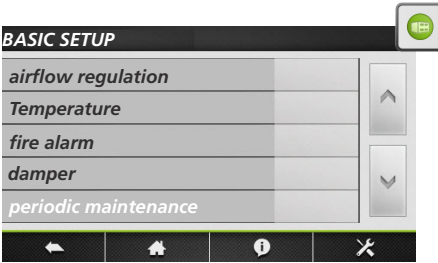
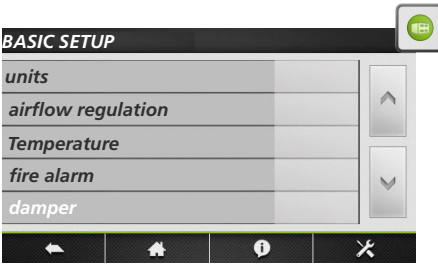
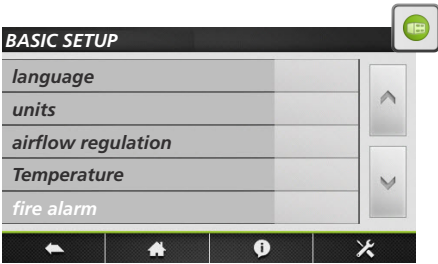
Built-in timer for maintenance warning; if the maintenance interval is exceeded, a maintenance reminder will be displayed.

Setting	Settings range	Factory setting
3 monthly warning	Yes No	No
12 monthly warning	Yes No	No

Commissioning completed

When the commissioning has been successful and this is confirmed in this menu, the commissioning menu will not be activated automatically anymore.

Setting	Settings range	Factory setting
Confirmation of successful commis- sioning	Yes No	No



2.1.4 Advanced setup

N.B.! The appearance and content of this menu varies depending on the type of air handling unit and functions and/or options selected. A code and a special training are needed to access this menu.



Attention: The settings range for most of the functions is defined for maximal flexibility. The factory setting is the advised setting, deviating from this setting requires careful consideration.

Stop fan with 0...10V

Function only available if “demand control” function has been selected in basic setup. With this function, the fans can be stopped if the 0...10V control signal is below or above a specified setpoint. The control signal is connected to the analogue input K2.

Setting	Settings range	Factory setting
Stop if <Vlow	No Yes	Yes
Vlow	0...10V	0,8V
Stop if >Vhigh	No Yes	Yes
Vhigh	0...10V	10,0V

Second 0...10V control signal

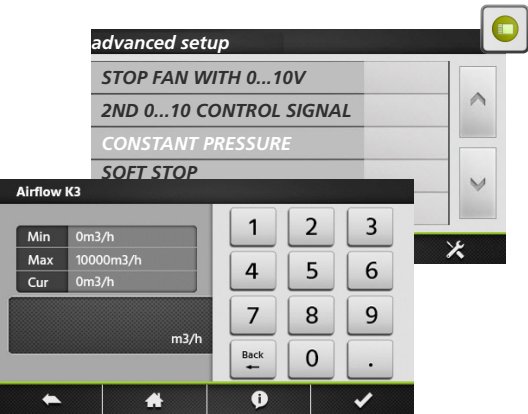
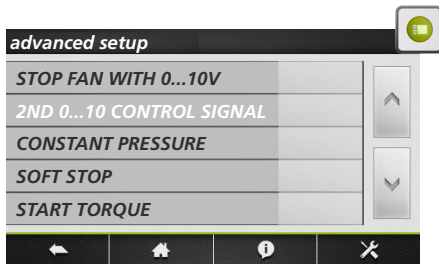
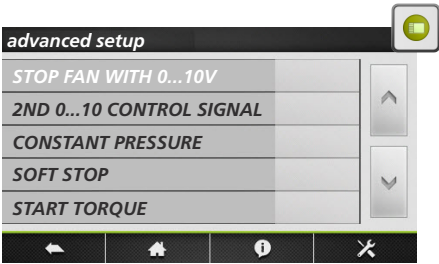
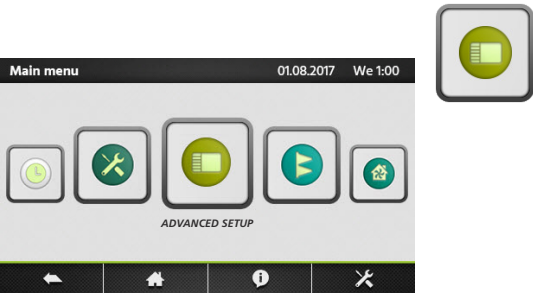
Function only available if “demand control” function has been selected in basic setup. With this function, a separate 0...10V control signal for the extract air can be activated. The control signal is connected to the analogue input K3.

Setting	Settings range	Factory setting
0...10V on K3?	No Yes	No
Control	Exhaust Supply	Exhaust

Pressure control

Function only available if “pressure control” function has been selected in basic setup. The reaction speed of the fans for the balancing of the constant pressure system can be modified. A higher Setting will result in a faster reaction speed; a lower Setting will result in a slower reaction speed. The system can be defined as a negative or a positive logic. A negative logic airflow drops when analogue signal on K2 is > than the setpoint.

Setting	Settings range	Factory setting
Reaction speed	0...10	10
Logic	Positive Negative	Negative



Stop fan when pressure alarm

Possibility to stop the fans automatically in case of a pressure alarm.

Setting	Settings range	Factory setting
Stop fans	No Yes	No

Start torque

Possibility to change the fans’s starting torque.

Setting	Settings range	Factory setting
Start Torque	0...100%	2%
Deactivate softstop		

With this function, the “OFF” function is deactivated.

Setting	Settings range	Factory setting
Softstop	Yes No	No

Temperature

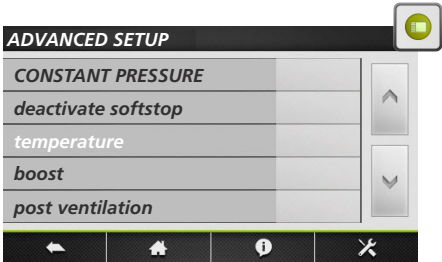
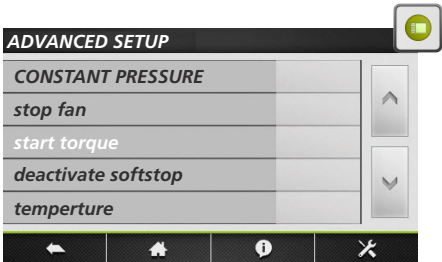
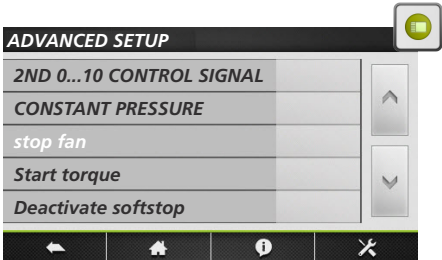
In this menu advanced temperature control parameters can be modified.

Supply air involves keeping a constant supply air temperature without consideration to the load in the premises.

Extract air involves keeping a constant temperature in the extract air duct (premises), by modulating the supply air temperature.

The reactlon speed of capacity control signal can be modified. A higher Setting will result in a smoother control; a lower Setting will result in a faster reaction speed. but also greater risc of oscillations.

Setting	Settings range	Factory setting
Supply or Extract ?	Supply Extract	Supply
Reaction speed	1...10	1
Supply air, min	0...20°C	15,0°C
Supply air, max	11...50°C	28,0°C
Stop fan if T°Supply <5°C	No Yes	No



Boost

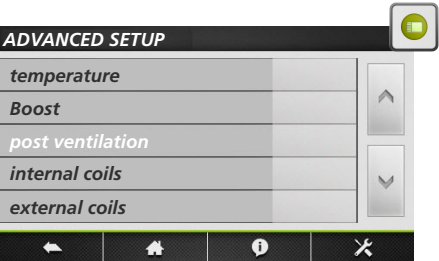
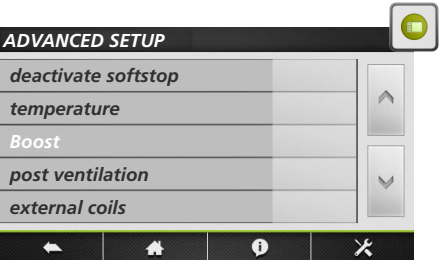
The boost mode can be used to force the supply and extract airflow to a higher setpoint, when specific conditions are met. The boost mode can be activated with a contact connected to the digital input IN2 or by an analogue 0...10V control signal connected to input K3. The boost setpoint is preset in (l/s, m³/h).

Setting	Settings range	Factory setting
Supply/Extract airflow	0...max	
Boost activation on	Contact RH	Contact
RH on/off	0...100%	60% / 40%
Vmin/max RH on K3	0...10V	2,0V / 9,5V
RH ~Vmin/max	0...100%	2% / 95%

Post ventilation

The post ventilation function is used to keep the fans running during a specified laps of time. This function is activated automatically when an electrical heating coil is activated.

Setting	Settings range	Factory setting
Activation	No Yes	No
Time	0...9999sec	90sec

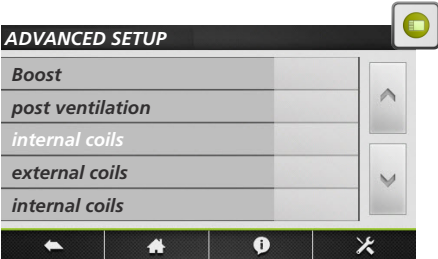


Internal coils

Internal coils, so inside the unit, have to be declared in the product settings, which is enabled in advanced settings with parameter “Enable Product Setup” (see the description of this parameter below in the list of advanced setting parameters).

When the Product Setup is enabled, it will be accessible through the menu Settings/Product Settings, with access code 5030. There, in case of presence of:

- Electric preheater, select for Preheat parameter “KWin”,
- Electric postheater, select for Postheat parameter “KWout”,
- Water postheater, select for Postheat parameter “NV”.



Electrical preheating coil

By preheating the outdoor air, it is possible to prevent moisture precipitation in the outdoor air filter of the air handling unit, to reduce the risk of frosting in the heat exchanger and to eliminate the risk that the ambient temperature will drop lower than minimum permissible. The electrical preheating coil will always have its separate power supply and main switch.

Setting	Settings range	Factory setting
Setpoint	-9,9...99,9°C	1,0°C
PID - Proportional Band	0...100	5
PID - Integral	0...100	30
PID - Derivate	0...100	11

Water postheating coil

The 3-way valve is not installed and will have to be installed and wired on site. The capacity of the coil will be controlled proportionally in order to keep a temperature as defined by the selected operating mode. The output AO4 is activated whenever heating is desired.

Setting	Settings range	Factory setting
Control mode	Exhaust Supply	Supply
Setpoint	-9,9...99,9°C	21,0°C
Reaction Speed	1...10	5

Electrical postheating coil

The electrical postheating coil will always have its separate power supply and main switch. The capacity of the coil will be controlled proportionally in order to keep a temperature as defined by the selected operating mode.

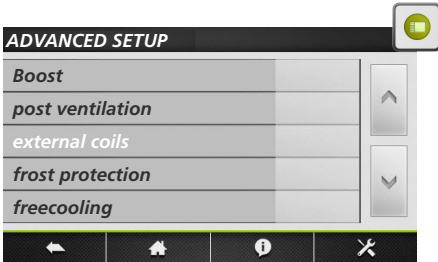
Setting	Settings range	Factory setting
Control mode	Exhaust Supply	Supply
Setpoint	-9,9...99,9°C	21,0°C
PID - Proportional Band	0...100	5
PID - Integral	0...100	30
PID - Derivate	0...100	11

External coils

Configuration of the coils

This menu will allow for the configuration of any combination of external heating and or cooling coil(s).

Setting	Settings range	Factory setting
Type	None Hot water Cold water Hot & Cold water Reversible water Electric PWM Electric PWM + Cold water Water preheating Water preheating+postheating Water preheating+reversible Electric 0...10V Electric 0...10V + Cold water	None



Water cooling coil

The external post cooling coil is delivered seperately from the air handling unit and will not be pre configured in factory. Both the coil and the 3-way valve will have to be installed and wired on site. The capacity of the coil will be controlled proportionally in order to keep a temperature as defined by the selected operating mode.

Setting	Settings range	Factory setting
Control mode	Exhaust Supply	Supply
Setpoint	0...99°C	17,0°C
Reaction Speed	1...10	5

Combi coil (DX)

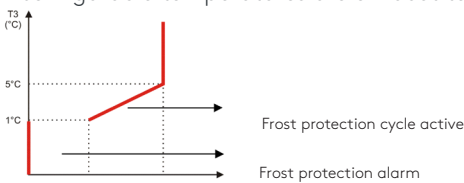
The external change over coil is delivered seperately from the air handling unit and will not be pre configured in factory. The coil will have to be installed and wired on site. The capacity of the coil will be controlled proportionally in order to keep a temperature as defined by the selected operating mode.

Setting	Settings range	Factory setting
Activate change over	No Yes	No
Neutral band	0...+50°C	2K

Frost protection

Frost protection plate heat exchangers (PX)

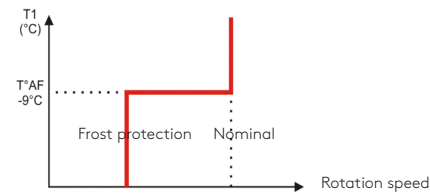
In environments where the extract air can occasionally be humid, the defrosting function can be activated to protect the heat exchanger from frosting. There are four strategies: down control of the supply air volume, modulating by-pass control, modulation of capacity of a pre-heating coil, differential pressure measurement (cold climate option). If non of these measures are effective, the air handling unit can be stopped by limiting the minimal supply air temperature. When the Frost protection cycle is active, it will be indicated on the HMI. The configurable temperatures are exhaust temperatures.



Setting	Settings range	Factory setting
T° Low	1...3°C	+1,0°C
T° High	1...5°C	+5,0°C
Stop supply airflow	No Yes	Yes

Frost protection rotary heat exchangers (RX)

In environments where the extract air can occasionally be humid, the defrosting function can be activated to protect the heat exchanger from frosting. The speed of the rotating heat exchanger is linked to the temperature of the outdoor (sensor T1). When the Frost protection cycle is active, it will be indicated on the HMI.



Setting	Settings range	Factory setting
Activate Frost protection	-29...+99°C	-9°C
RX rotation speed	2...10RPM	2RPM

Frost protection heating and cooling coils

The water coils are always protected against freezing by an anti-frost temperature sensor. This sensor is monted on the surface of the water coil. When the anti-frost protection temperature of the hydraulic coil detects a tempeature lower than 4°C (default), the pump contact is closed and the 3 way valve is opened 100% during 15 minutes. If the unit is running, the alarm is activated immediately. For a water preheating coil, the frost alarm is delayed by 2 minutes. If frost protection conditions occur when the air handling unit is OFF, the alarm is delayed by 5 minutes.

Setting	Settings range	Factory setting
Internal heating coil	-10...+10°C	+4,0°C
External heating coil	-10...+10°C	+4,0°C
External cooling coil	-10...+10°C	+4,0°C
External preheating coil	-10...+10°C	+4,0°C

Freecooling

The bypass on the ESENSA product range, can be configured for freecooling. The main parameters to activate the free cooling function are the outside temperature (T1) and the extract (room) air temperature (T2). When there is maximal freecooling possibility the bypass will be 100% open. The 100% opened bypass can activate the configurable freecooling airflow.

Setting	Settings range	Factory setting
Outdoor T°	0...27°C	10,0°C
Extract/Room T°	6...28°C	22,0°C
Supply airflow	(l/s, m³/h)	
Extract airflow	(l/s, m³/h)	
Bypass control	Frost protection Freecooling Frost protection & free cooling	Freecooling

Modbus configuration

The MODBUS RTU communication requires an additional satellite circuit which is used as communication interface. The communication protocol used is MODBUS RTU, RS485.

Setting	Settings range	Factory setting
Address	1...247	1
Baudrate	1200 4800 9600 19200	9600
Parity	No Yes	No

LAN configuration

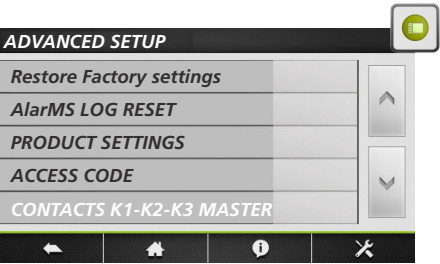
The MODBUS TCP/IP communication requires an additional satellite circuit which is used as communication interface. The communication protocol used is Modbus TCP/IP on Ethernet network over twisted pair 10 BASE T/100Base-TX IEEE 802.3.

Setting	Settings range	Factory setting
IP configuration	DHCP Manual	Manual
IP adress		192.168.1.1
Netmask		255.255.255.0
Gatway		0.0.0.0

Operating time

For maintenance purposes, operating timers can be activated. If the “service alarm time” or the “Stop fan” timers are triggered, the according alarm will be shown and the unit will switch to “OFF”-mode.

Setting	Settings range	Factory setting
Reset timer	No Yes	No
Fan run time activation	No Yes	No
Display time	No Yes	No
Service alarm time	0...999999h	0h
Stop fan	0...999999h	0h



Restore Factory settings

Allows to restore the factory settings
Alarms log reset
Reset of the alarm log history
Product Settings
Enables the product settings button in the settings menu.

Enable Product Setup

When the Product Setup is enabled, it will be accessible through the menu Settings/Product Settings, with access code 5030.
Internal coils, so inside the unit, have to be declared in the product settings in case of presence of:
- Electric preheater, select for Preheat parameter “KWin”,
- Electric postheater, select for Postheat parameter “KWout”,
- Water postheater, select for Postheat parameter “NV”.

Access Code

Management of the 4 digits numerical codes to access basic, advanced and product setup. If the basic code is set, then operation on control and time schedules screens will be limited too.

Contacts K1-K2-K3 Master

Set this parameter to control the unit with electrical contacts K1-K2-K3 instead of the speed selection buttons of the control screen.

Save Values on SD card

This parameter appears only if there is a micro SD card inserted into the slot of the TACtouch. If set, then status, control variables and parameters are saved on the micro SD card and appended in a CSV format file named “TAClog”.

2.1.5 Product setup

Product setup is enabled in advanced settings with parameter “Enable Product Setup” (see the description of this parameter in the list of advanced setting parameters).

When the Product Setup is enabled, it will be accessible through the menu Settings/Product Settings, with access code 5030.

Internal coils, so inside the unit, have to be declared in the product settings.

Other parameters inside the product setup should be changed only by trained person.

The options are provided separately from the unit with a dedicated installation manual. Please refer to the installation manual for the wiring diagrams.

Preheat

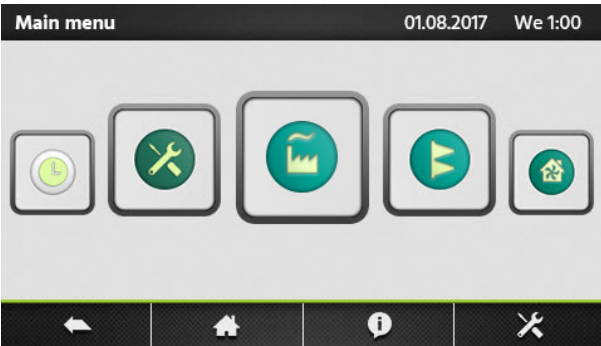
Indicates the presence of preheater inside the unit. See definition of Electrical preheating coil in Advanced setup. In case of presence, select “KWin”.

Setting	Range	Factory
Preheat	None, KWin, BAin	None

Postheat

Indicates the presence of postheater inside the unit. See definition of Electrical postheating coil and Water postheating coil in Advanced setup. In case of Electrical postheating coil presence, select “KWout”. In case of Water postheating coil presence, select “NV”.

Setting	Range	Factory
Postheat	None, KWout, NV	None



3. REC type table

In the control board the “REC type” is used to define the type unit. When replacing the control board, the REC type needs to be configured in the product setup menu. The product setup menu is used to enable specific features or to modify factory settings. This must be done by an accredited technician. A code and special training is mandatory to access this menu group. The table below is valid for controllers generation TAC.

ESENSA PX Top	
05	889002
09	889004
12	889008
13	889010

ESENSA RX Top	
04	889100
05	889102
12	889156
16	889160

ESENSA PX Flex*	
05 R	889302
05 L	889303
10 R	889306
10 L	889307
13 R	889310
13 L	889311
20 VR	889315
20 VL	889314
20 HR	889314
20 HL	889315

* VR/VL = Vertical right/left
HR/HL = Horizontal right/left



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