GB

EXcon - Dehumidifier KIT

Installation and configuration in duct coils

Original instructions

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1. In general

1.1 In general

Prohibition symbol

Failure to observe instructions marked with a prohibition symbol may result in serious or fatal injury.

Danger symbol

Failure to observe instructions marked with a danger symbol may result in personal injury and/or damage to equipment.

Scope of the instruction manual

This instruction manual is intended for the EXHAUSTO air handling unit (hereinafter called the “VEX unit”). For accompanying accessories and additional equipment, please see the product guidelines for the specific item.

The instruction manual must be fully observed to ensure personal safety and the safety of others, and to protect equipment and ensure the correct operation of the VEX unit. EXHAUSTO A/S accepts no liability for accidents caused by a failure to use the product in accordance with the instruction manual’s instructions and specifications.

Terms

This instruction manual uses the terms described in DS447-2013:

- Supply air (inlet aur)
- Extract air (outlet air)
- Outdoor air
- Exhaust air
- Recirculation

IMPORTANT for units in operation before mounting a dehumidifier in a VEX unit:

Stop the VEX using the HMI or via the web server.

Do not open the service doors before the power has been disconnected at the isolation switch (OFF position), and the fans have stopped. The isolation switch is located on the door of the heat exchanger section. When the isolation switch is in the OFF position, the light inside the VEX unit can still be switched on and the service socket in the panel can be used. Everything else on the VEX unit is de-energised.

There is an extra and separate built-in isolation switch on the door to the electric heating coil. *Units with electric heating coils therefore have two isolation switches, both of which must be in the OFF position to ensure the air handling unit is de-energised.*

NB:

Before opening the doors, ensure that the air handling unit has stopped operating for at least five minutes, because the fans have run-on time.

Locked doors

Use the square key to open or close the doors.

2. Correct positioning of coils

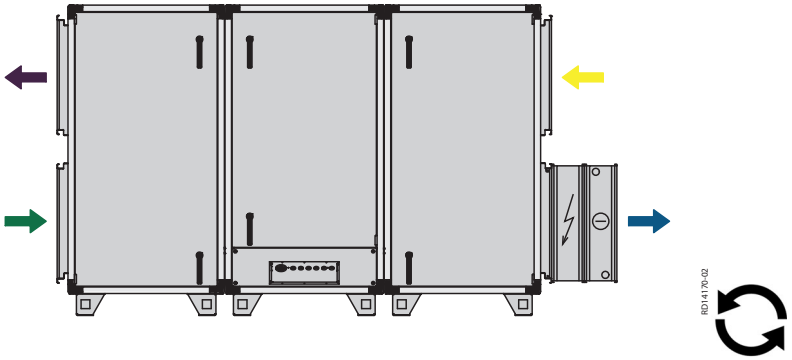
2.1 Correct positioning of coils

2.1.1 Correct positioning of coils for dehumidification

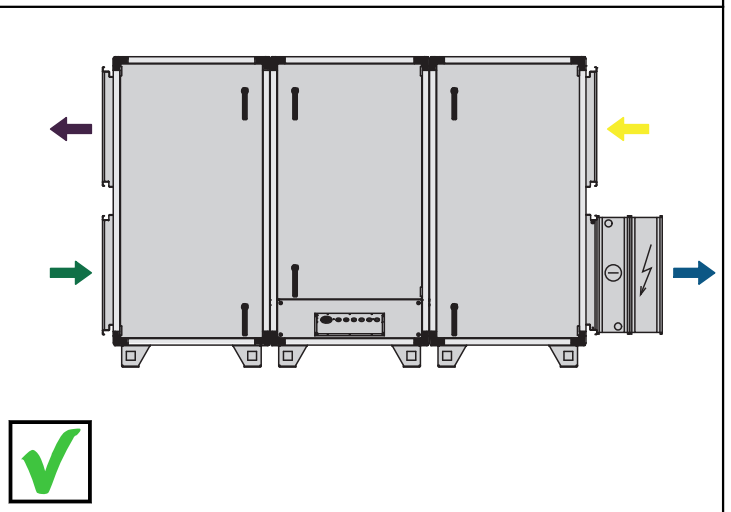
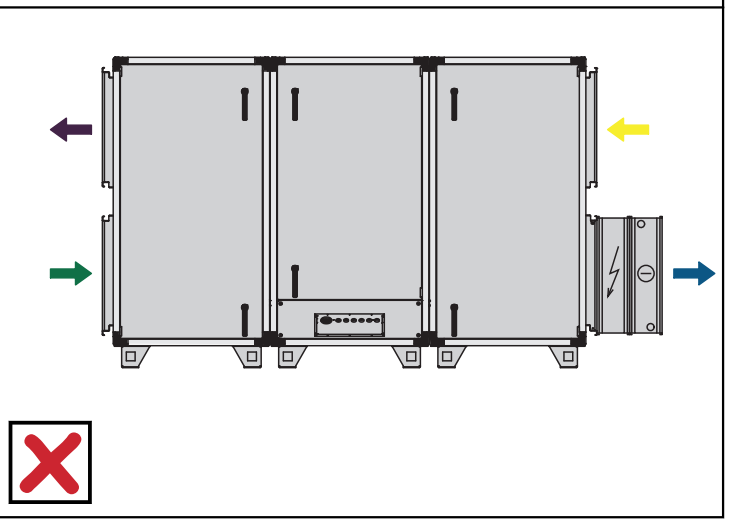
In general

In order to dehumidify the supply air, the air must be cooled and subsequently heated to obtain the correct supply air temperature, which means that it must be ensured that the cooling coil is mounted before the heating coil in the air direction.

NB: The heating coils (HE or HW coils) are fitted before cooling coils (CX or DW coils) at the factory. As shown below.



Correct positioning of coils for dehumidification

Before installing the dehumidifier KIT in a VEX unit, you must:	
• For factory-supplied units, switch around so that the cooling coil is before the heating coil in the air direction (blue arrow). • For external coils, ensure that the cooling coil is mounted before the heating coil in the air direction (blue arrow)	
Duct coils supplied ex works.	

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3. Fitting sensor

3.1 Fitting sensors

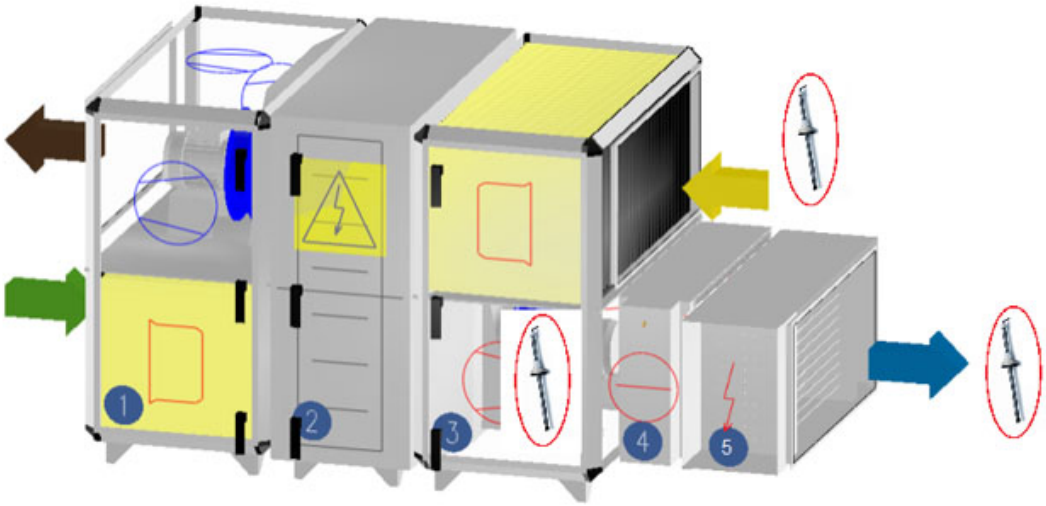
3.1.1 Fitting sensor

Fitting the HTH sensors

The dehumidifier KIT consists of three HTH sensors with 7 m cable and an RJ12 splitter + (dew point sensor, if required).

The three HTH sensors must be fitted as follows:

- HTH-6202 supply air (blue arrow)
- HTH-6203 extract air (yellow arrow)
- HTH-6204 recirculation (before cooling coil)

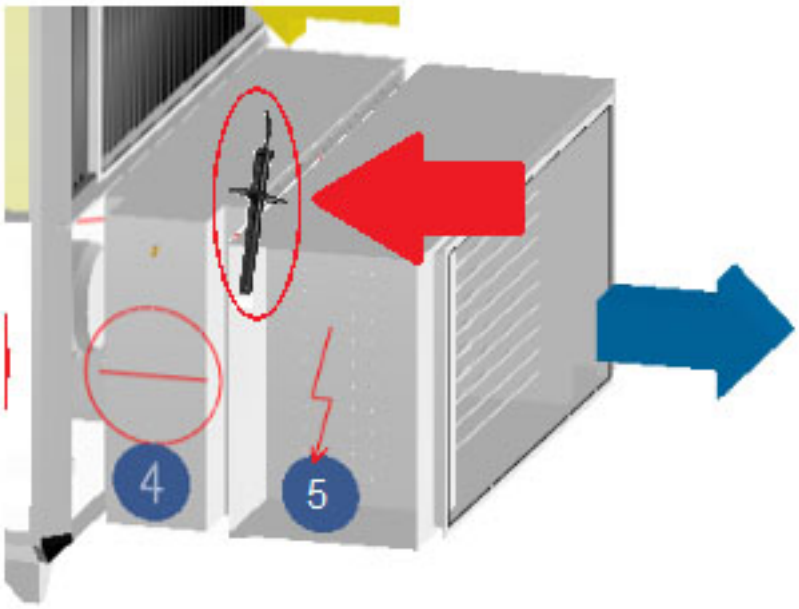


3.1.2 Fitting dew point sensor

Fitting dew point sensor

For good and energy-saving regulation of the dehumidification, a dew point sensor can be mounted between the cooling coil and the heating coil. Using the dew point sensor, EXcon calculates the need for cooling capacity to dehumidify the air. Depending on the VEX unit set-up/system, various options are possible:

- If the heating coil is supplied with a PT1000 temperature sensor, this can be used as a dew point sensor and the accompanying HTH-6202 sensor can then be used as a supply air temperature sensor.
- If there is no available PT1000 sensor that can be moved, use the supplied PT1000 sensor as dew point sensor.

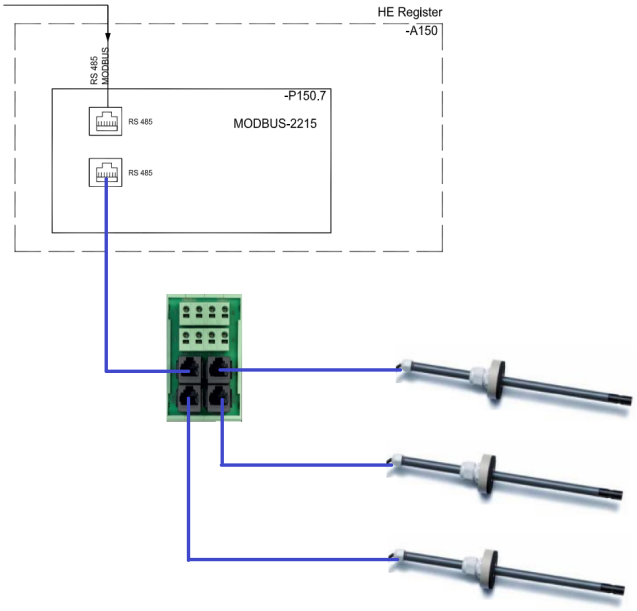


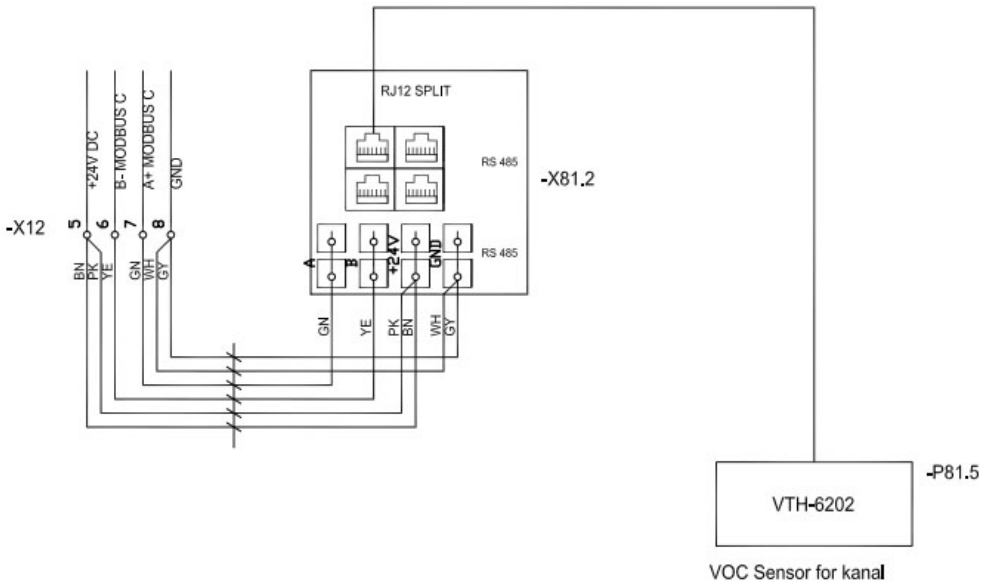
4. Connection

4.1 Connecting HTH sensors

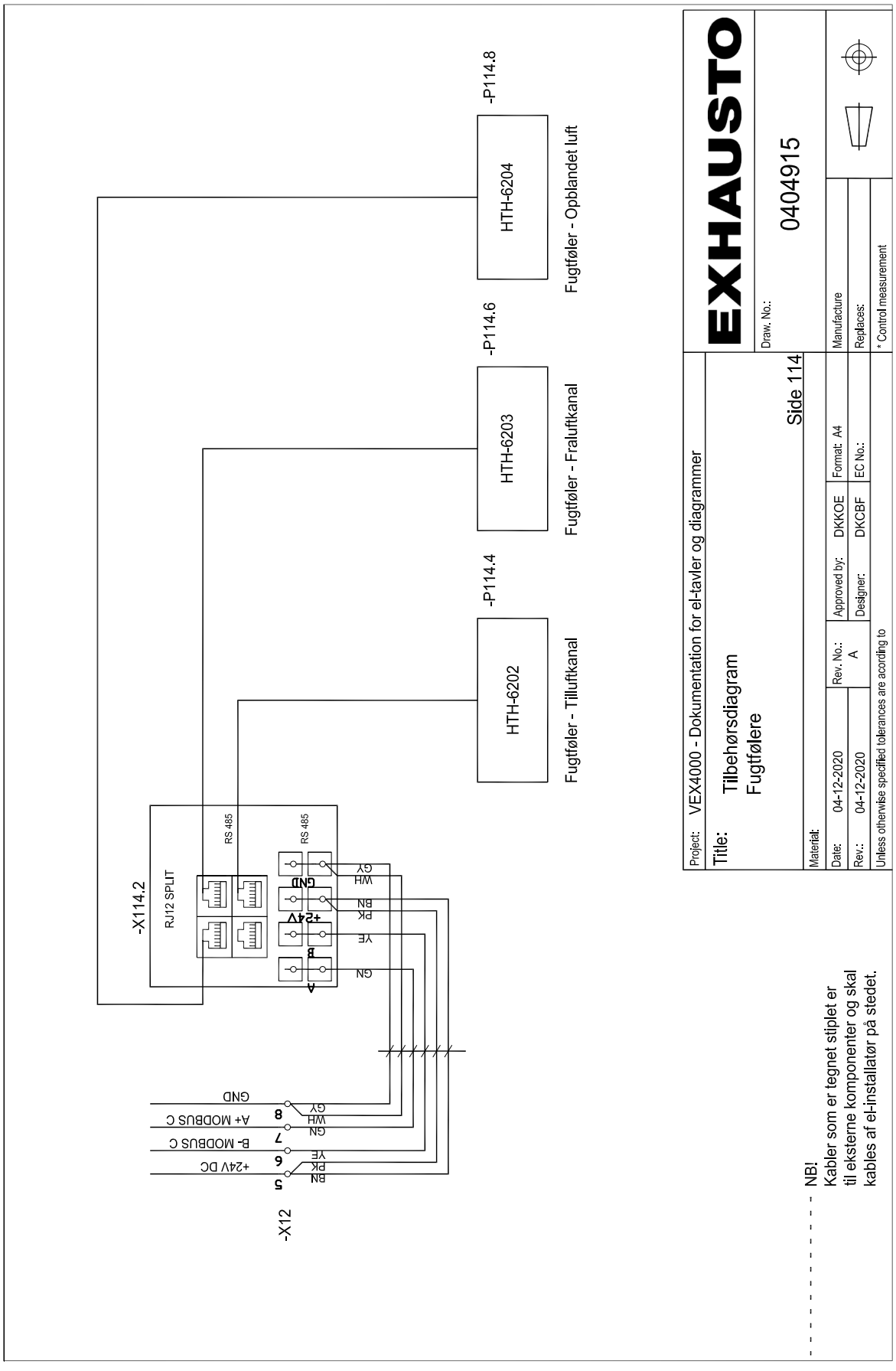
4.1.1 Connecting HTH sensors

The HTH sensors are supplied with a 7 m cable and an RJ12 splitter.
These Modbus sensors must be connected to the internal BUS or if there is an RJ12 splitter and an available BUS port on e.g. EXCON Master, EXT or PTH modules.
There is an RJ12 splitter already positioned on newer electrical panels and HTH sensors can be connected there.





4.1.2 Connection diagram HTH sensors



5. Configuring the dehumidifier system

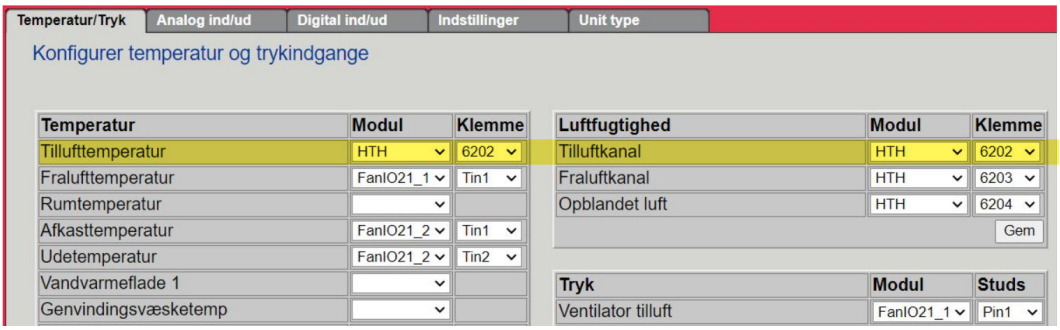
5.1 Configuration

5.1.1 Configuring the dehumidifier system

Configuring temperature and pressure

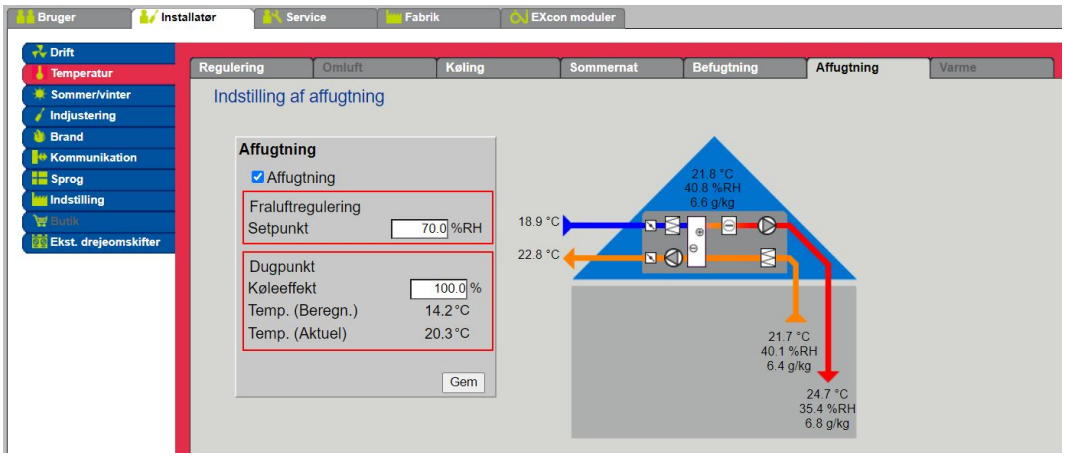
There are several options for setting up temperature registration:

- Existing PT1000 sensor.
- The HTH-6202 sensor positioned in the supply air is an integrated temperature sensor, which can therefore be used and configured instead of the existing PT1000 sensor.



Controlling dehumidification

Dehumidification is controlled in relation to RH% in the extract air.



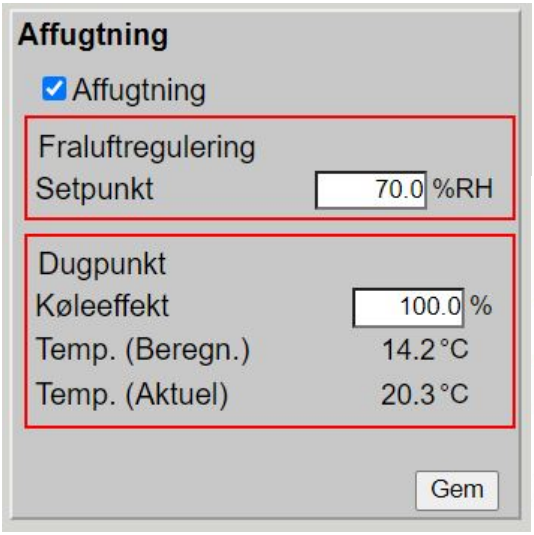
NB:

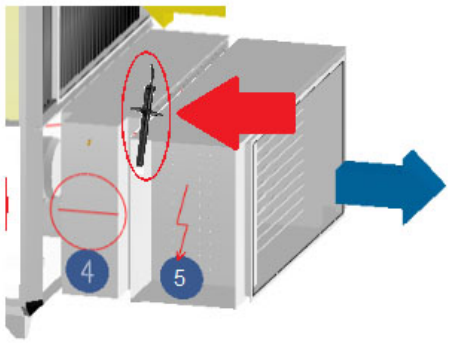
The HTH-6203 sensor fitted in the extract air duct (yellow arrow) is the controlling sensor for the RH% limit value.

5.1.2 Configuring dew point sensor

Dew point of dehumidification

The dew point sensor controls the energy consumption of the dehumidifier regulation and the cooling coil. The dew point temperature is registered between the cooling and heating coils.



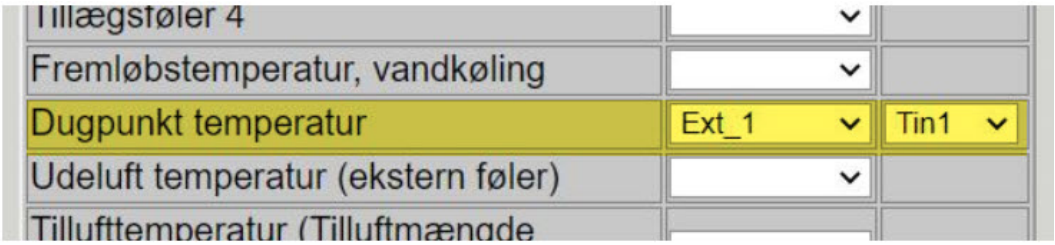


- **Dew point cooling output:** The cooling capacity is used for dehumidification. Only used if no dew point temperature sensor is connected.
- **Temperature (Calc.):** Calculates dew point temperature.
- **Temperature (Actual) :** The actual temperature, measured at the dew point sensor.

Configuring dew point temperature sensor

NB:

Input **Tin**, which is used for the dew point sensor must be configured in the system. Here shown as an example where the PT1000 sensor between coils is connected to EXT module 1, Tin1.



Remember

If the heating coil is supplied with a PT1000 temperature sensor, this can be used as a dew point sensor and the HTH-6202 sensor can then be used as a supply air temperature sensor.

Scan code and go to addresses at
www.exhausto.com

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