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# PLUG & PLAY AHU QUICK START-UP GUIDE

VVSc Floor-mounted Compact Units

VVSs Ceiling-suspended Compact Units



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## **GENERAL SAFETY RULES**

Before attempting to any works described in this Quick Set-Up Manual and other related documents please acknowledge below listed General Safety Rules:

- All installation, configuration and start-up work described in the following chapter of this manual and the related ones must be done by authorized personnel and with respect to code of the state in which the installation of the unit is done.
- The VTS company shall not assume any liability for personal injuries or damage to property in case of disobey the regulations and safety requirements. Also, the company will not assume any damage resulting from product modification without manufacturer's authorization.
- To reduce a potential risk during maintenance or installation works appropriate safety clothes shall be worn.
- Electrical power to power mains must be connected via appropriate rating circuit-breaker.
- In the event of detected malfunction, contact authorized service of VTS. Do not attempt any repairs yourself.

**ABOUT THIS QUICK STEP MANUAL**

**RANGE OF COVERED INFORMATION**

This document is a quick installation, configuration and start-up manual for the following range of VTS Products (Figure 1):

VVSc Floor-mounted Compact Units

VVScs Ceiling-suspended Compact



Figure 1 - VVSc and VVScs range of Air Handling Units

It is aimed to guide the user through all necessary steps, systematize the sequence of taken actions to prevent from any damage to the equipment while setting-up the AHU.

**It needs to be emphasized**, that this document IS NOT a complete Operation and Maintenance Documentation of the VTS products and does not cover all advanced details of the products and their control application. Such information is available in all remaining technical and maintenance manuals listed in chapter “Reference manuals”.

**4 STEPS TO RUN YOUR AIR HANDLING UNIT**

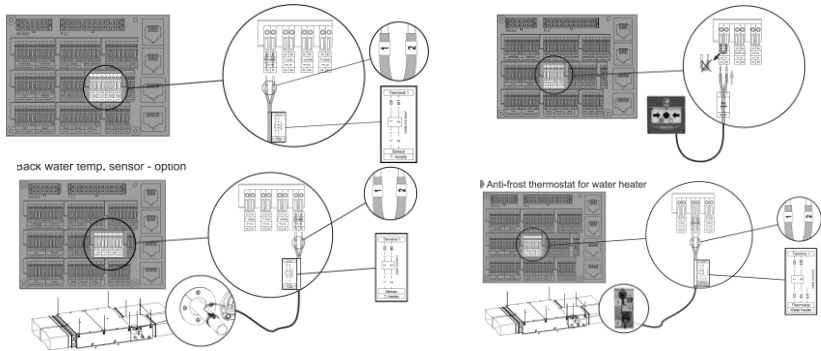
In general, the preparation of the Air Handling Unit for start-up consists of the following 4 stages:

**STAGE 1 – UNBOXING OF THE CONTROL ELEMENTS**



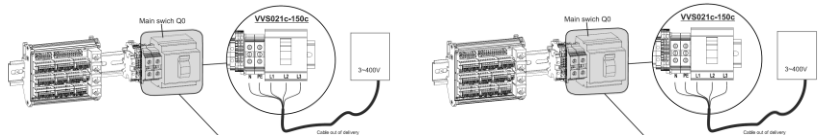
**Details in chapters:**  
  
Plug & Play control elements

**STAGE 2 – CONNECTING OF ALL PERIPHERAL CONTROL ELEMENTS TO THE BASE UNIT AND POWER SUPPLY**



**Details in chapters:**  
  
Connecting of the peripheral control elements to the base unit

**STAGE 3 – CONNECTING OF THE AIR HANDLING UNIT TO MAINS**



**Details in chapters:**  
  
On-Off DX compressor start permission signal – cooling and heating mode

## STAGE 4 – START-UP OF THE AIR HANDLING UNIT



Details in chapters:

Air Handling Unit start-up

## REFERENCE MANUALS

In the following chapters of this Quick Set-Up Manual, multiple references to detailed manuals of VVSc and VVSs ranges will occur. The full list of the reference manual has been listed below with the links:

- [Installation, Operation and Maintenance Manual VENTUS COMPACT VVS021c-VVS150c \[EN\]](#) – a full, detailed Operation and Maintenance Manual for VVSc Floor-mounted Compact Air Handling Units. This manual covers all information related with installation, set-up and start-up of the VVSc units.
- [Installation, Operation and Maintenance Manual VENTUS Suspended VVS005s-VVS030s \[EN\]](#) – a full, detailed Operation and Maintenance Manual for VVSs Ceiling Suspended Compact Air Handling Units. This manual covers all information related with installation, set-up and start-up of the VVSs units.
- [VENTUS Compact connecting instruction.pdf](#) – Graphical Manual describing how to connect all of your peripheral control components to the main unit's switchboard – an release for fast printing.
- [Installation, Operation and Maintenance Manual - VENTUS Software - uPC3 controller and BMS data \[EN\]](#) – detailed information all advanced functions of the uPC controller applied in your Air Handling Units
- [User Manual - Visualization guide for uPC3 controller \[EN\]](#) – document covering remote AHU operations visualization by means of web-browser or mobile devices.

## MINIMUM REQUIRED TOOLS RANGE

Before attempting to any electric connections described in detail in the following chapters of this manual, ensure that you are equipped with the following **minimum range of tools**:

Table 1 - minimum necessary tools

Tool name	Tool application	Picture
Set of flat head screwdrivers	Plugging the control elements terminals into the switchboard	
Set of cross screwdrivers	Connecting of the power supply to relevant parts of the Air Handling Units	
Battery drill & set of various bits	Opening and closing of AHU sections and switchboard	

## LOCATION OF THE KEY ELEMENTS ON THE UNIT

### VVSc FLOOR-MOUNTED COMPACT UNITS

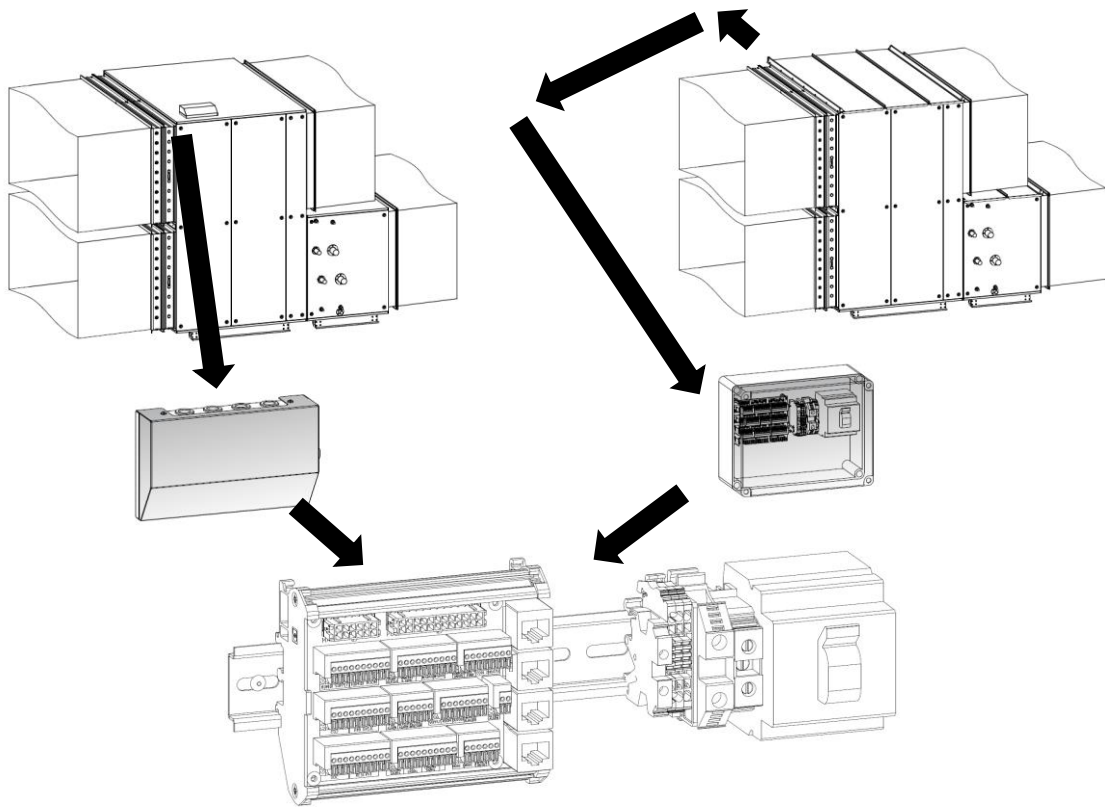
The VVSc Floor-mounted AHU may be factory-fitted for indoor or outdoor application (depending on the order). Depending on the execution, location of the terminal-box may vary, as per below:

- VVSc AHU fitted for indoor installation – terminal box installed on the base unit's ceiling.
- VVSc AHU fitted for outdoor installation – terminal box installed on the base unit's rear wall.

Location of the terminal boxes for VVSc units has been demonstrated on Figure 2.

VVSc unit factory fitted for **Indoor** installation

VVSc unit factory fitted for **Outdoor** installation



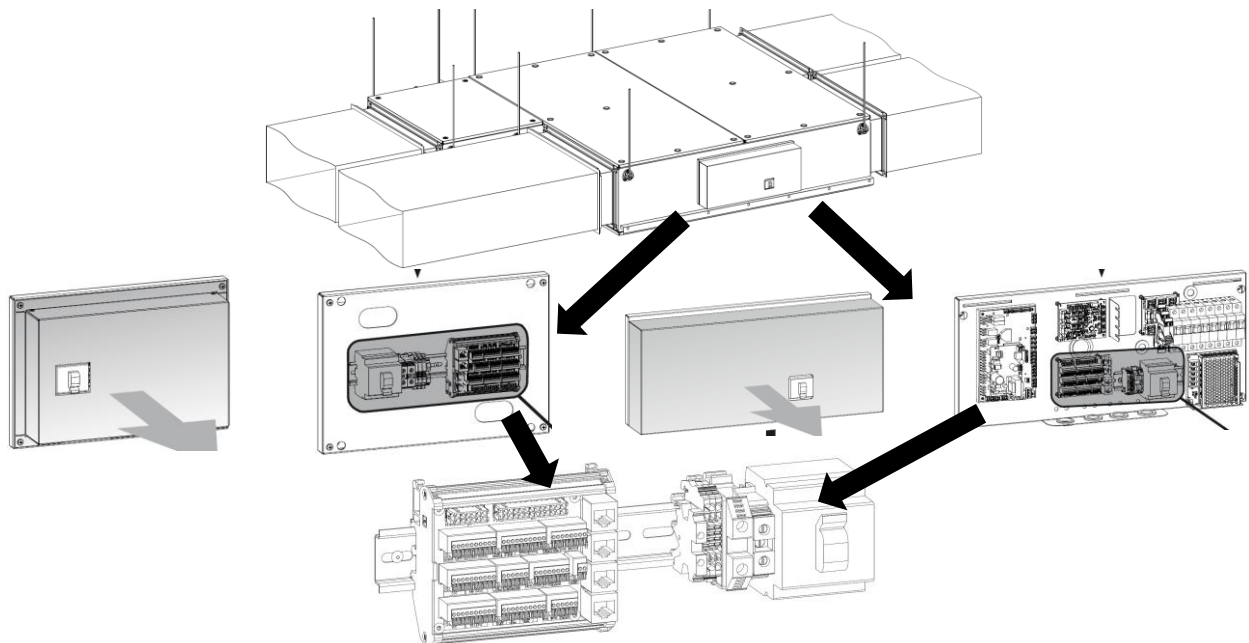
*Figure 2 - VVSc - location of the terminal box*

### **VVSS CEILING-SUSPENDED COMPACT UNITS**

The VVSSs Floor-mounted AHU may be factory-fitted indoor application only. Depending on the execution, location of the terminal-box may vary, as per below (Figure 3):

VVSSs unit – controller installed inside the AHU body

VVSSs unit – controller integrated with terminal-box



*Figure 3 - VVSSs - location of the terminal box*

Depending on the AHU execution (due to constant product improvement), terminal box of the VVSs Ceiling Suspended Compact Unit may occur in one of below modes:

- Terminal box includes main switch, mains and controls terminals only. Main AHU controller installed inside the unit's body (Figure 3, left).
- Terminal box includes main switch, mains and controls terminals, main AHU controller, pressure transducers board, main circuits breakers and control circuits power supply. All integrated on one common board (Figure 3, right).

## PLUG & PLAY CONTROL ELEMENTS

### VERIFYING OF THE AHU PACKAGE CONTENT

Unbox all control elements included in the AHU package. Keep them in order to easily verify their completeness. Refer to the Technical Specification Card (being a part of the package) to verify the AHU type and configuration. Use Figure 4 and Figure 5 to verify if the attached controls elements are included in your set.

### AIR TREATMENT FUNCTIONS CONTROL ELEMENTS

Below listed control elements are supposed to be obligatory part of your AHU set, depending on the range of air treatment functions supported.

Technical Specification first page (example)	AHU Type	Air treatment function	Required control element
	 VVSc	Hot Water Coil	3-way valve or Water Pump Group (WPG)
		Chilled Water Coil	3-way valve
		DX Cooling Coil	N/A
	 VVSs	Hot Water Coil	3-way valve or Water Pump Group (WPG)
		Electric Heater	Differential Pressure Switch
		Chilled Water Coil	3-way valve
		DX Cooling Coil	N/A

Figure 4 - Required control elements for key air treatment functions

### AUXILIARY CONTROL ELEMENTS

Beyond the control element directly related with relevant air treatment function, the AHU package may include the following optional parts:

Picture	Auxiliary control element name	Application
	HMI Advanced (Human-Machine Interface)	Advanced user interface enabling access to all control application settings of the AHU
	HMI Basic (Human-Machine Interface)	Basic user interface enabling easy regulation of the main AHU operational parameters





Strap-on return water temperature sensor (for water heater)

Optional monitoring of returning heating water temperature, as an alternative to default heater protection realized by means of anti-freeze thermostat



CO<sub>2</sub> concentration transducer

Optional monitoring of CO<sub>2</sub> concentration in return air supporting air mixing (VVSc base with mixing box)



Relative Humidity Limiting Transducer

Optional monitoring of air relative humidity in the supply duct to prevent against excessive humidity content in supply air.

Figure 5 - Auxiliary Control Elements

## CONNECTING OF THE PERIPHERAL CONTROL ELEMENTS TO THE BASE UNIT

### Caution

Before attempting to connect the peripheral control element to the base unit, ensure that the Base Unit is disconnected from power supply mains.

Connect all peripheral control element to the terminal block on the Base Unit. Carefully read the marks attached to the cables tips and find relevant markings printed on the terminal block below each single terminal. Plug relevant cables to the identically marked ports on the terminal block. The following chapters will guide you to make correct connections.

### SUPPLY DUCT TEMPERATURE SENSOR

The Supply duct temperature sensor must be installed downstream any air treatment functions handled by your unit. Below diagram illustrates supply ducted temperature sensor installed together with VVScs suspended unit. The same rule concerns the floor mounted model of VVSc range.

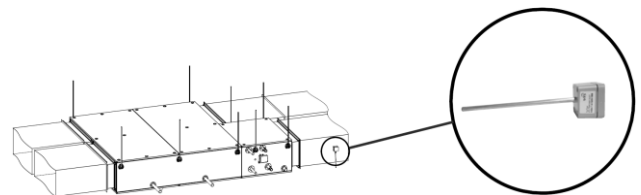


Figure 6 - Supply air temperature ducted sensor correct installation

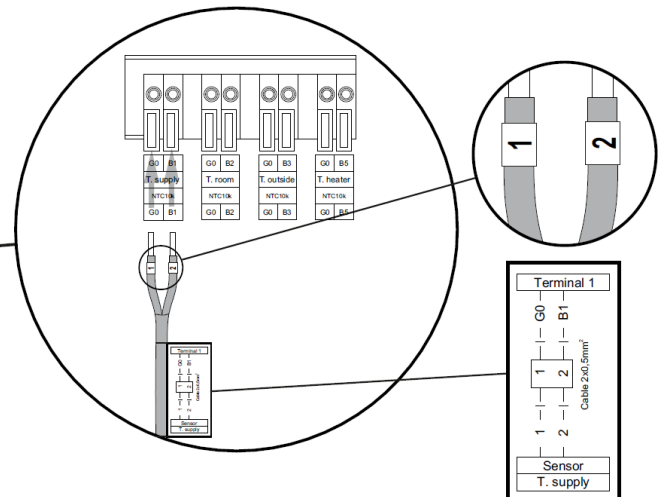
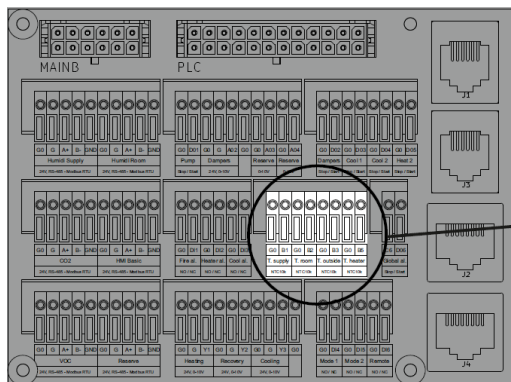


Figure 7 - Connection of the ducted temperature sensor. T1 port

### FIRE ALARM SIGNAL

The fire alarm signal (signal normally closed) can be connected to the AHU switchboard if issued by the building systems. In case the AHU is not intended to be communicated with the fire protection system of the building, the Fire Alarm input on the switchboard should be permanently bridged. See Figure 8.

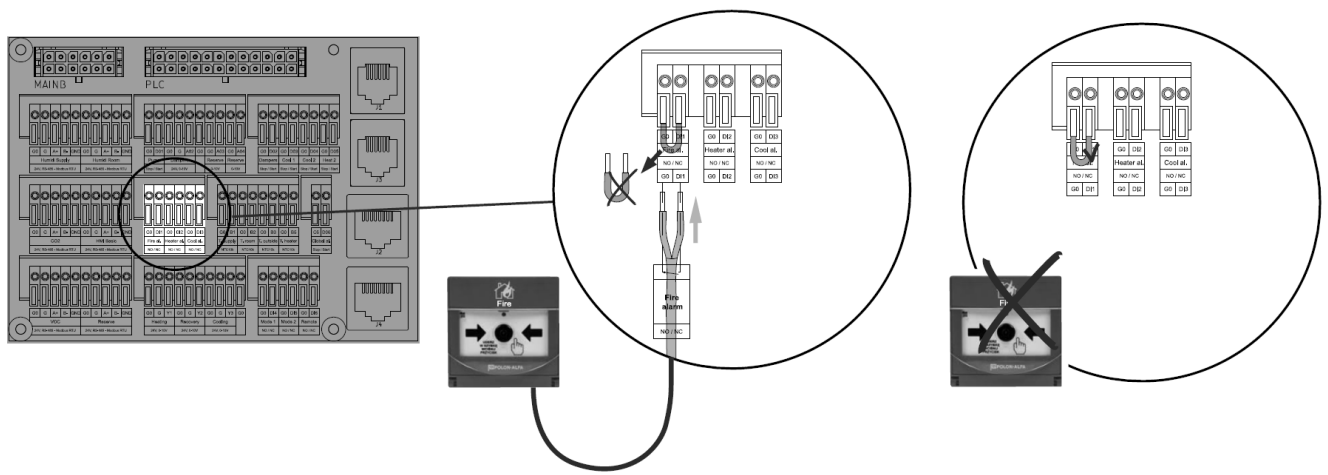


Figure 8 - Fire alarm signal connections / permanent bridge. Ports: Fire al.

## AIR DAMPER ACTUATOR

VVSc or VVSS supply-exhaust air handling units are equipped with two air dampers – one for supply, the other one for exhaust air tier. Both of the dampers are power supplied and controlled from the same location on the terminal block. The damper actuators will be connected to the Ports: Dampers G, Dampers G0, D02 of the switchboard. Mind, that both of the actuators will be connected in parallel, using the 3-way lever connector (attached together with the actuators), as shown on Figure 9 (3-way lever connector shown in low-left corner of).

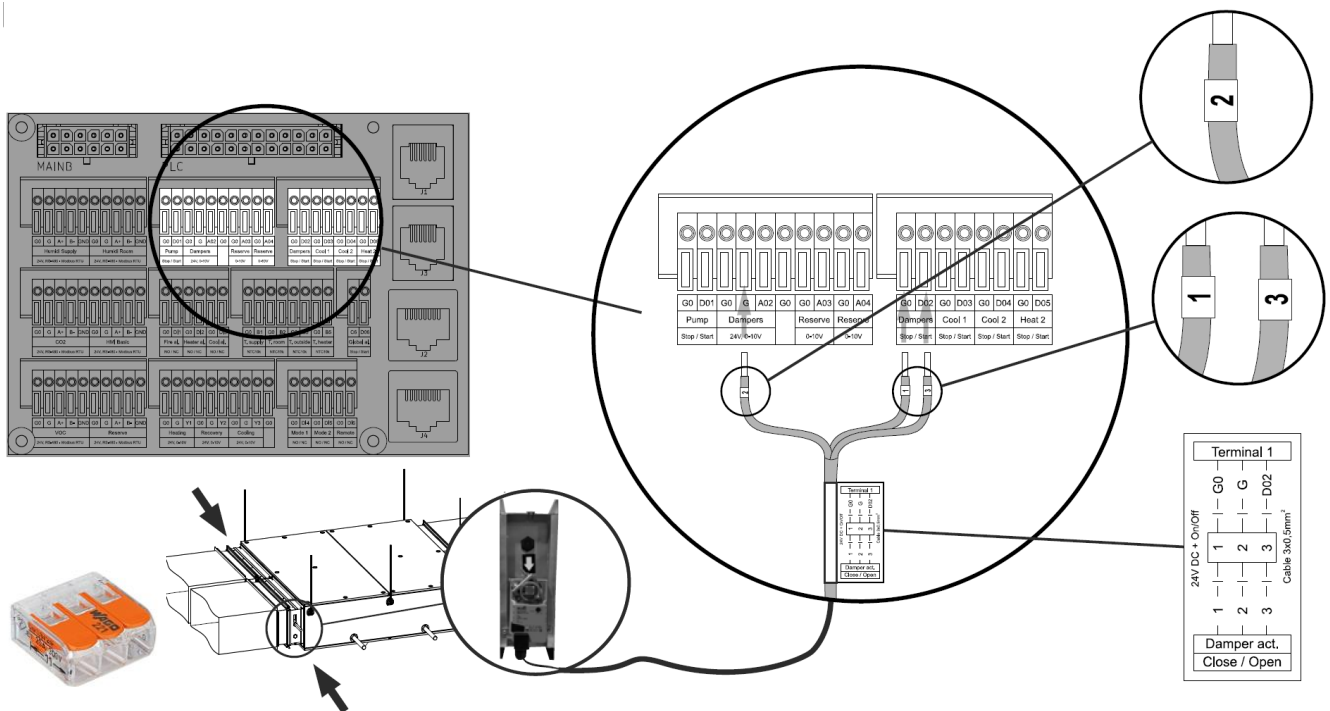


Figure 9 - Connection of the Air Damper Actuator to the switchboard; Ports: Dampers G, Dampers G0, D02

## ANTI-FREEZE THERMOSTAT FOR WATER HEATER ON THE AIR SIDE

The anti-freeze thermostat on the air side monitors air temperature directly downstream the heating coil and triggers the AHU defrosting mode if necessary. Its terminals must be connected to the “Heater al.” port, terminals G0, DI2, as shown on the Figure 10.

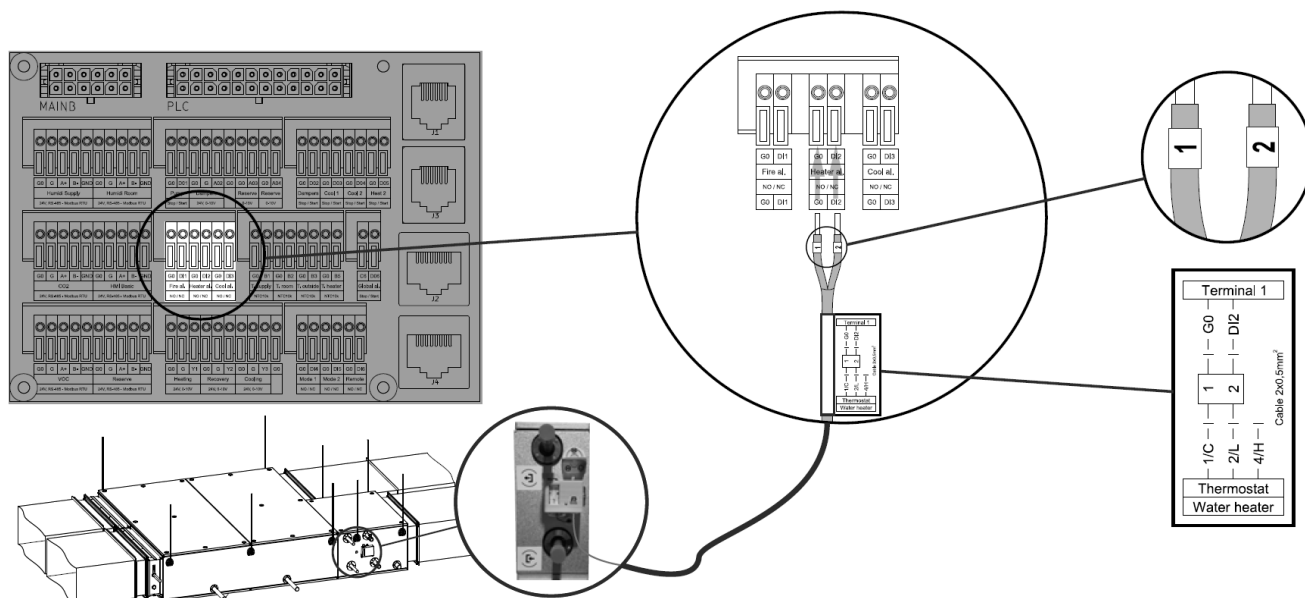


Figure 10 - Connection of the antifreeze thermostat on the air side; Port: Heater al. G0, DI2

### **STRAP-ON TEMPERATURE SENSOR ON HEATING WATER RETURN**

Strap-on temperature sensor (Figure 11) is an optional equipment of the water heater. While installing the strap-on temperature sensor, mind, that the sensor must be stuck to the return water pipe from your water heater. Proper installation is critical for the return water temperature monitoring and coil antifreeze protection of the coil. **DO NOT CONFUSE IT.**

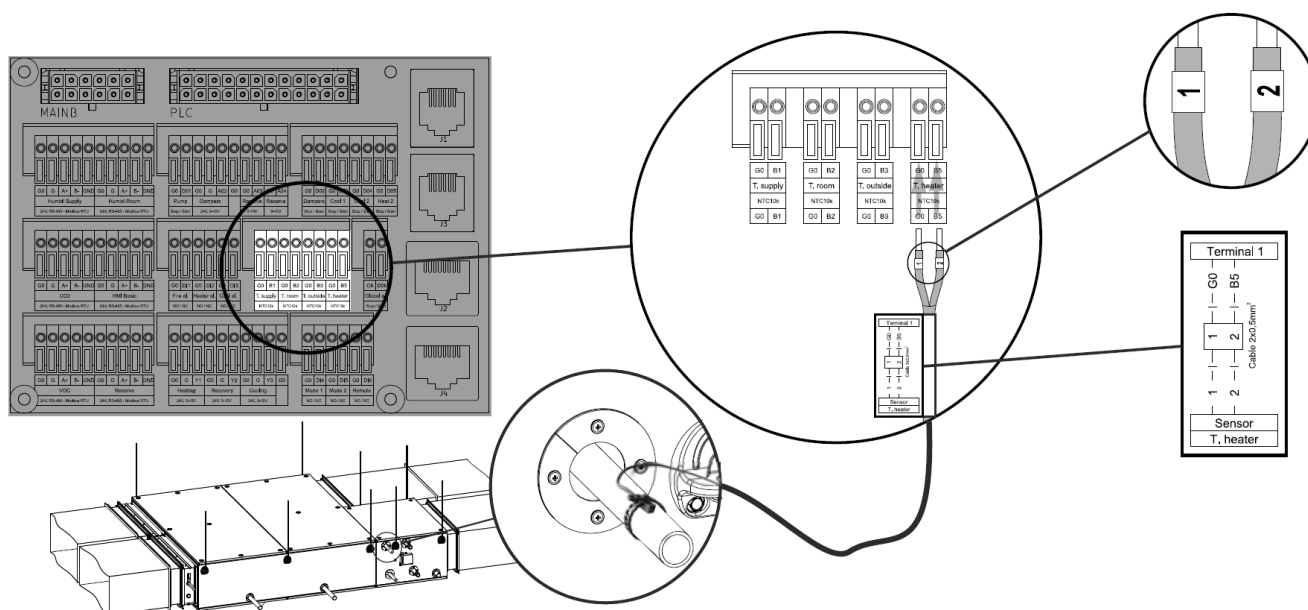


Figure 11 - installation and connection of the return water strap-on temperature sensor; T .heater port

### **WATER PUMP GROUP FOR WATER HEATER**

**NOTE!** Put a special attention to the way the water pump group is connected to the water heater. In order to enable proper regulation of the coil capacity ("Quality Regulation"). Refer to [OMM VENTUS Compact floor RRG units with controls EN](#) or [OMM VENTUS Compact suspended units with automatic EN](#).

The water pump is an integrated peripheral system supporting proper operations of the water heater. While connecting it to your switchboard, mind, that 2 of below listed electric circuits must be put in to make the connection complete:

#### **3-WAY VALVE ACTUATOR**

The 3-way valve actuator (part of the water pump group) is the main regulator of the water heater capacity. Connect it to the switchboard as shown on the Figure 12 (port "Heating", terminals: G0, G, Y1).

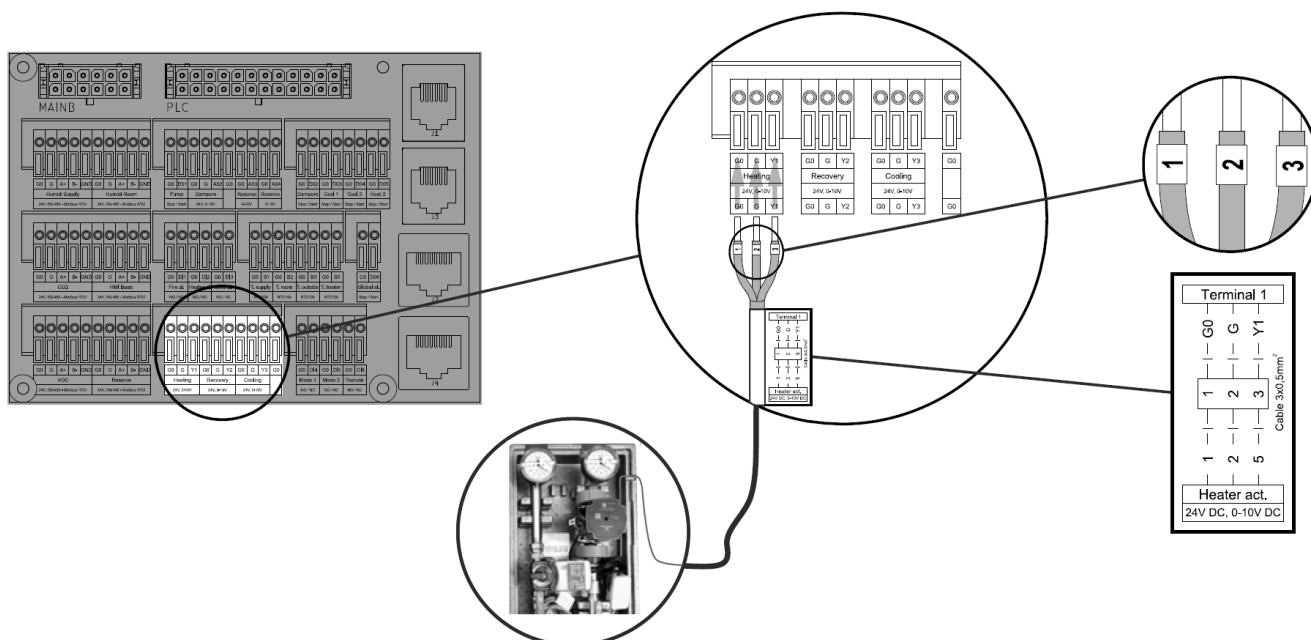


Figure 12 - Connection of the 3-way valve (part of the pump group) supply and control signal; Heating port

## HEATING WATER CIRCULATION PUMP

The heating water circulation pump (part of the water pump group) supports the 3-way valve in capacity regulation. It needs to be supplied with power. This very circuit needs to be connected to the power terminal, as shown on the Figure 13 (terminals L, N, PE).

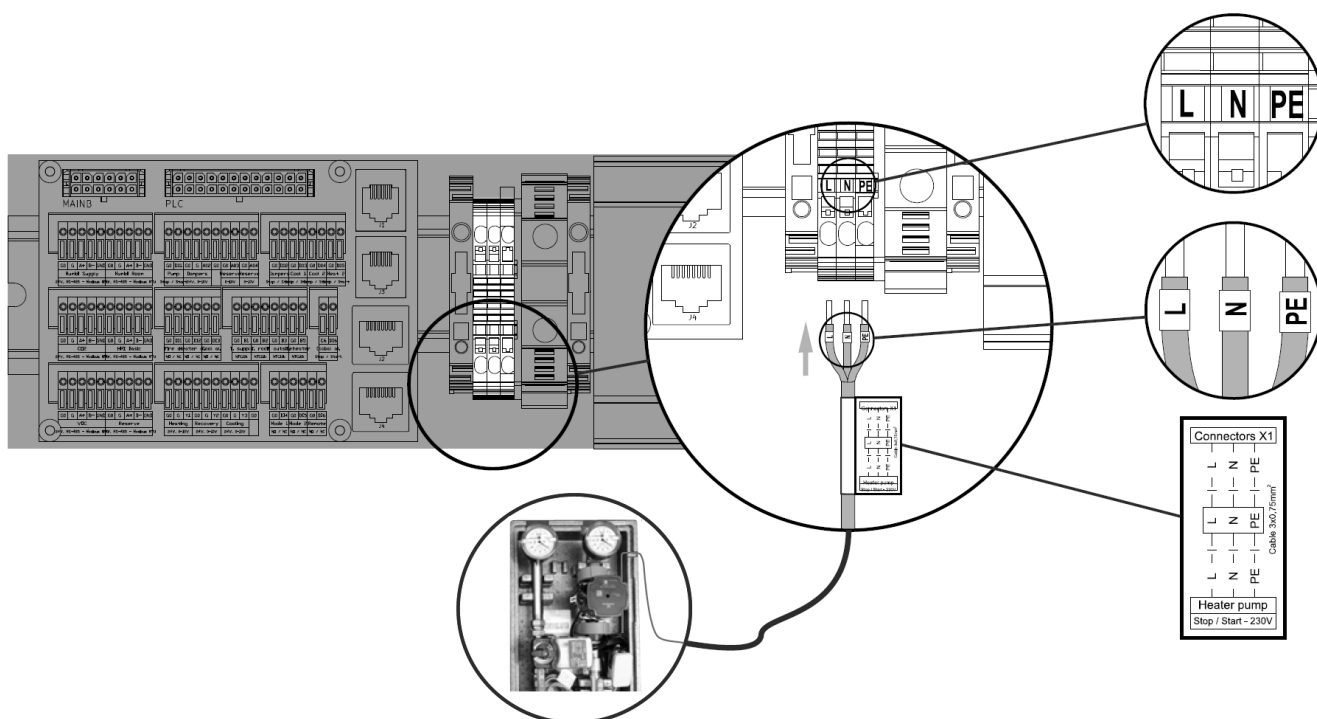


Figure 13 - Connection of the water heater recirculation pump to the power supply source

## ELECTRIC HEATER

### POWER SUPPLY CABLE

Before attempting to connect the electric heater, make sure that you have a proper power cable (not supplied by VTS). The type of the electric heater supply cable is **Color-coded PVC power and control cable**. See Table 2 for minimum cross-sections depending on the heater rater capacity and rated current.

Table 2 - power supply cables for electric heaters



Heater Capacity	Rated current	Cable cross-section
3 kW	4,3 Amp	4 x 1,5 mm <sup>2</sup>
6 kW	8,7 Amp	4 x 1,5 mm <sup>2</sup>
9 kW	13,0 Amp	4 x 1,5 mm <sup>2</sup>
12 kW	17,3 Amp	4 x 2,5 mm <sup>2</sup>
15 kW	21,7 Amp	4 x 2,5 mm <sup>2</sup>
18 kW	26,0 Amp	4 x 4,0 mm <sup>2</sup>
21 kW	30,3 Amp	4 x 4,0 mm <sup>2</sup>
24 kW	34,7 Amp	4 x 6,0 mm <sup>2</sup>
27 kW	39,0 Amp	4 x 6,0 mm <sup>2</sup>
30 kW	43,4 Amp	4 x 10,0 mm <sup>2</sup>
33 kW	47,7 Amp	4 x 10,0 mm <sup>2</sup>
36 kW	52,0 Amp	4 x 10,0 mm <sup>2</sup>

### **CROSSING AND CONNECTING THE POWER SUPPLY AND CONTROL CABLES**

Make all connections (power and control) of the electric heater as shown on Figure 14

**NOTE!** Mind swapped sequence of the terminals: 2; 1; 3.

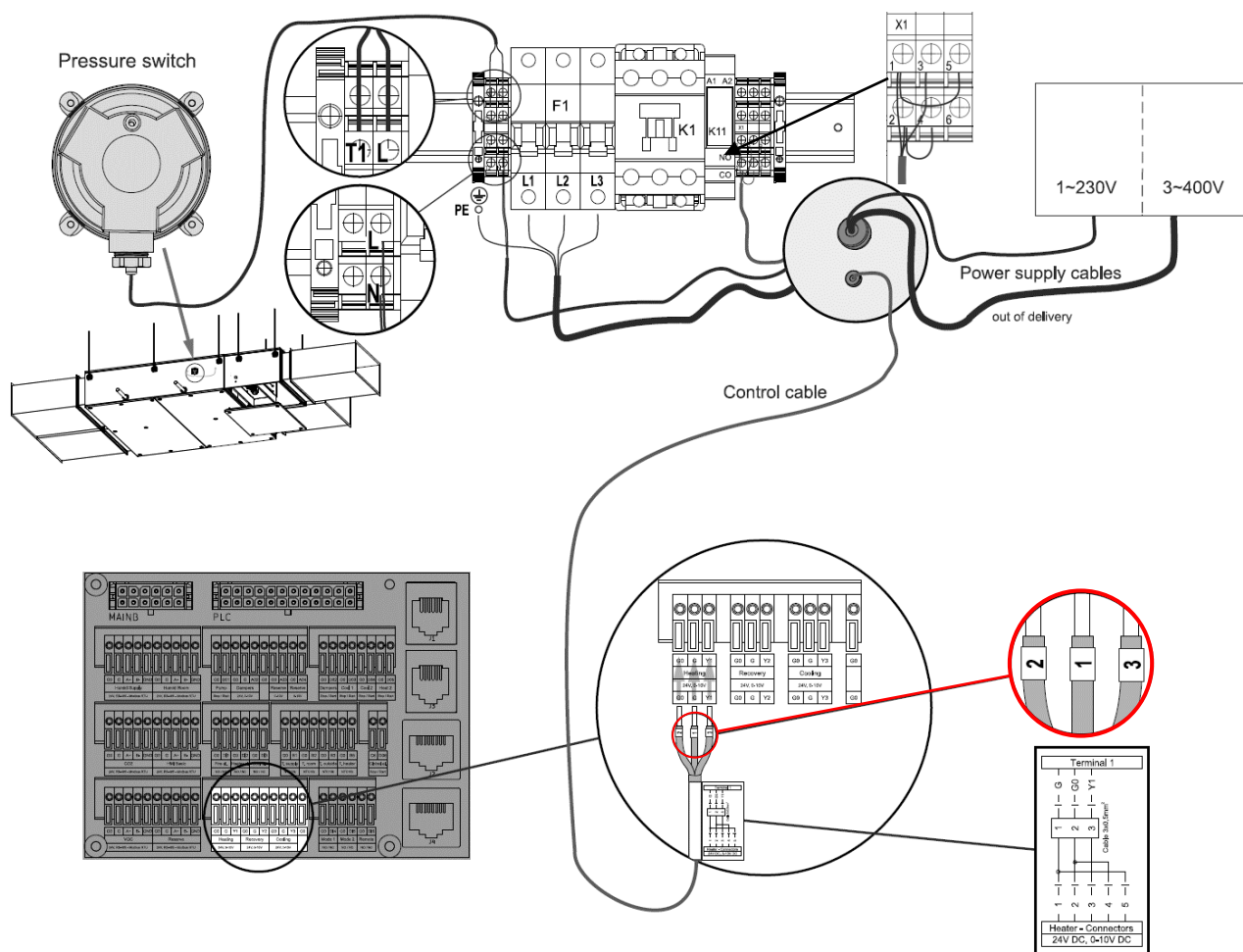
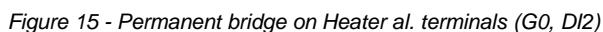


Figure 14 - Electric heater connections

Explanation to above:

- Pressure switch cable – will be connected to the T1 and L terminals of the electric heater (Figure 14).
- Power supply cable (3x400 VAC) – will be crossed through the power gland (the large one) and connected to the L1, L2 and L3 power terminals located of the F1 power mains switch (Figure 14).
- Auxiliary power supply cable (1x230 VAC) will be crossed through the power gland (the large one) and connected to the L and N terminals (Figure 14).

- NOTE!** For unit with electric heater, the terminals of the water heater antifreeze thermostat must be permanently bridged, like shown on Figure 15.



For the unit equipped with water cooling coil (water cooler), connect its 3-way valve set (valve with actuator) as shown on Figure 16.



Beyond above listed connection of the peripheral control components, two types of user interfaces can be connected to the relevant ports on the AHU switchbox



## HMI ADVANCED

HIM Advanced – an advanced user interface, enabling all range of AHU regulations and settings. Connect this interface using original cable terminated with RJ45 plug, as shown on Figure 17.

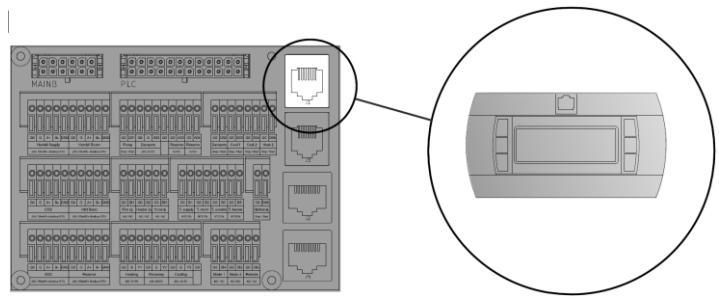


Figure 17 - HMI Advanced port

## HMI BASIC

The HMI Basic interface enables basic range of AHU regulations and settings. Due to fact, that it is equipped with built-in room temperature sensor, it should be installed on the wall of air-handled room (Figure 18). For details, refer to the installation manual boxed together with the HMI Basic

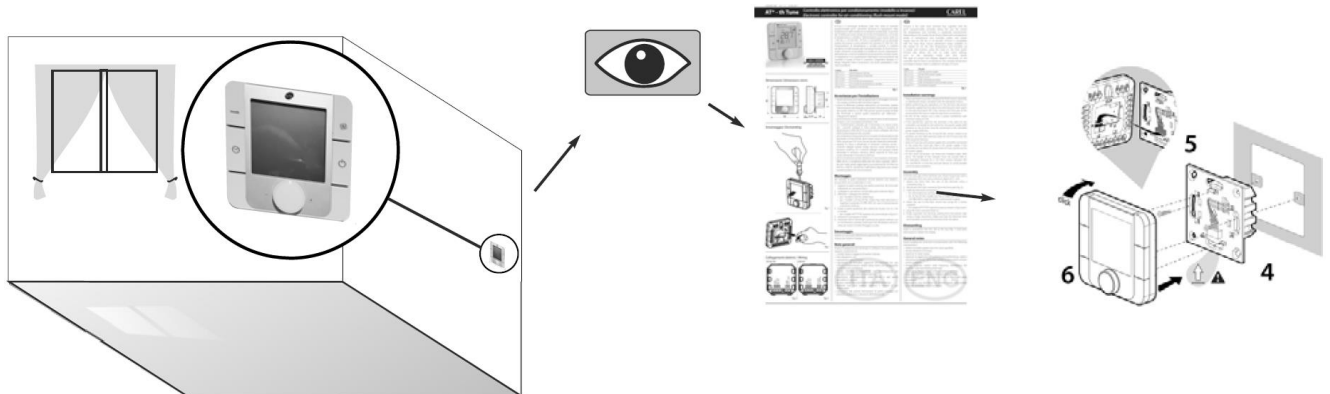


Figure 18 - Installation of the HMI Basic interface

When installed, cross the communication cable to the Air Handling Unit switchboard and connect as shown on Figure 19.

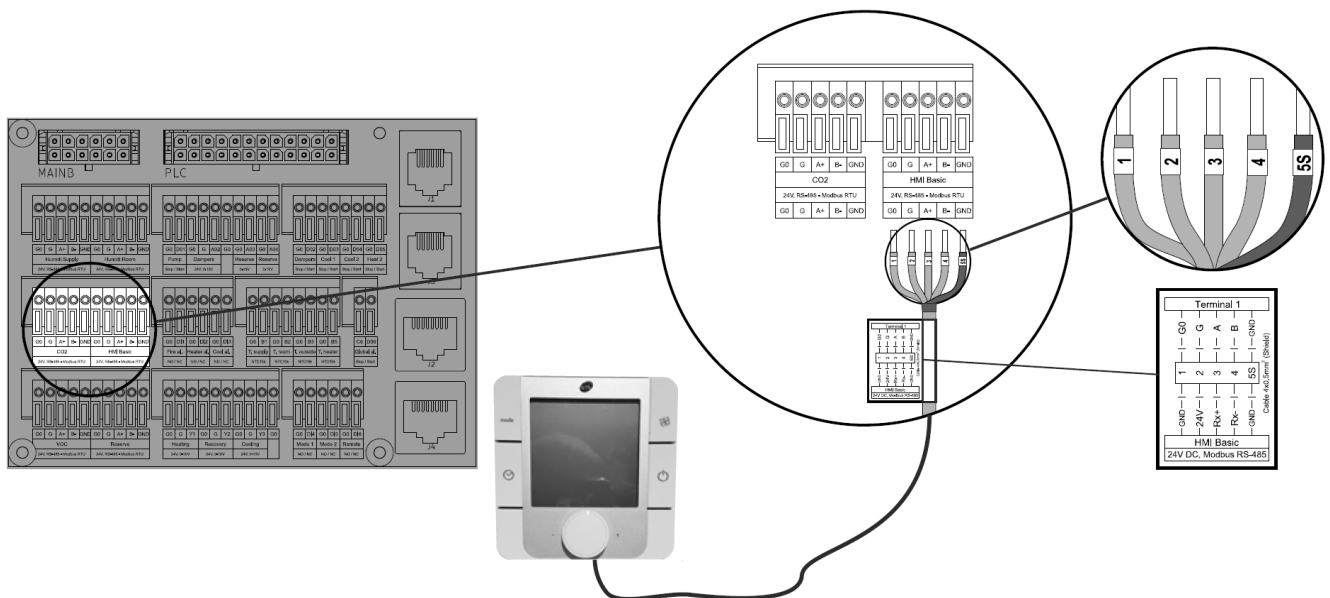


Figure 19 - Connection of HMI Basic

## CONNECTING OF THE AUXILIARY DEVICES

### CHILLING SOURCE FAILURE ALARM

For the unit equipped with cooler (both water or DX) you can connect a binary signal informing about general failure of the cooling medium source (chiller or DX compressor). If such alarm is triggered, the control application of the Air Handling Unit disengages the cooling mode (unit will remain running, with no cooling function). Follow the Figure 20 to link the cooling medium source with the AHU controls. Communication cable is not supplied.

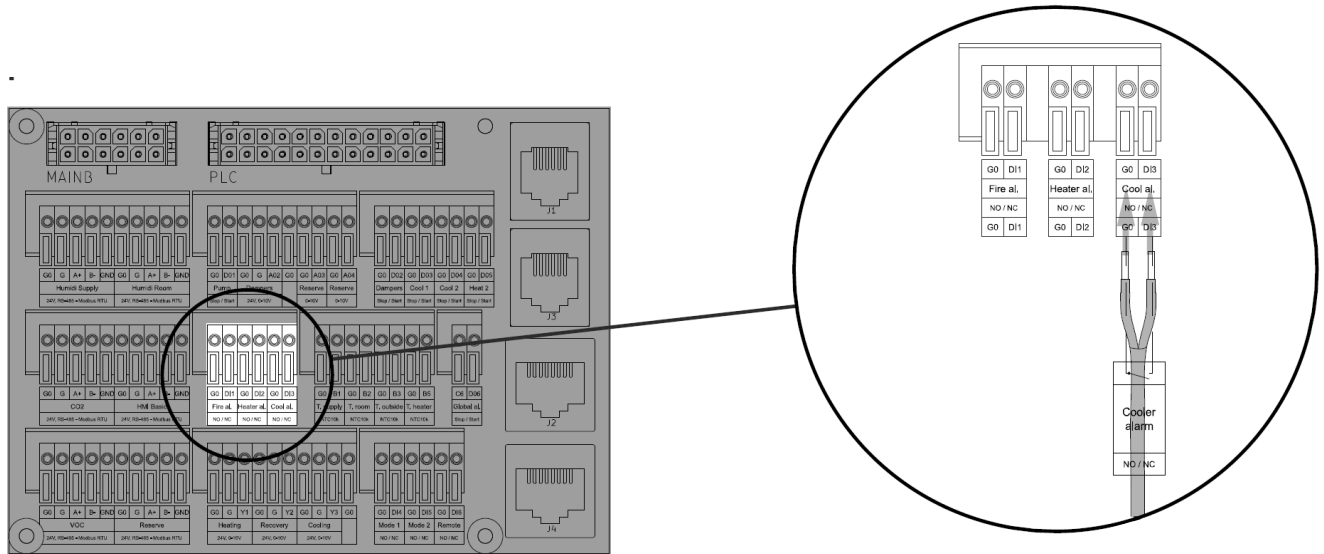


Figure 20 - Cooling medium source failure status binary signal

### DX COMPRESSOR COMMUNICATION FOR AIR COOLING FUNCTION ONLY

For the DX coil supplied from DX compressor supporting summer operation (cooling function) only, follow below steps.

#### DX COMPRESSOR ANALOG CONTROL SIGNAL FOR COOLING MODE ONLY

For DX compressor enabling smooth capacity control for cooling mode only, a 0-10V communication between AHU and compressor can be established. Connect the analog input of your DX compressor (0-10V standard) to the Cooling port, terminals G0, Y3 (Figure 21). Communication cable is not supplied.

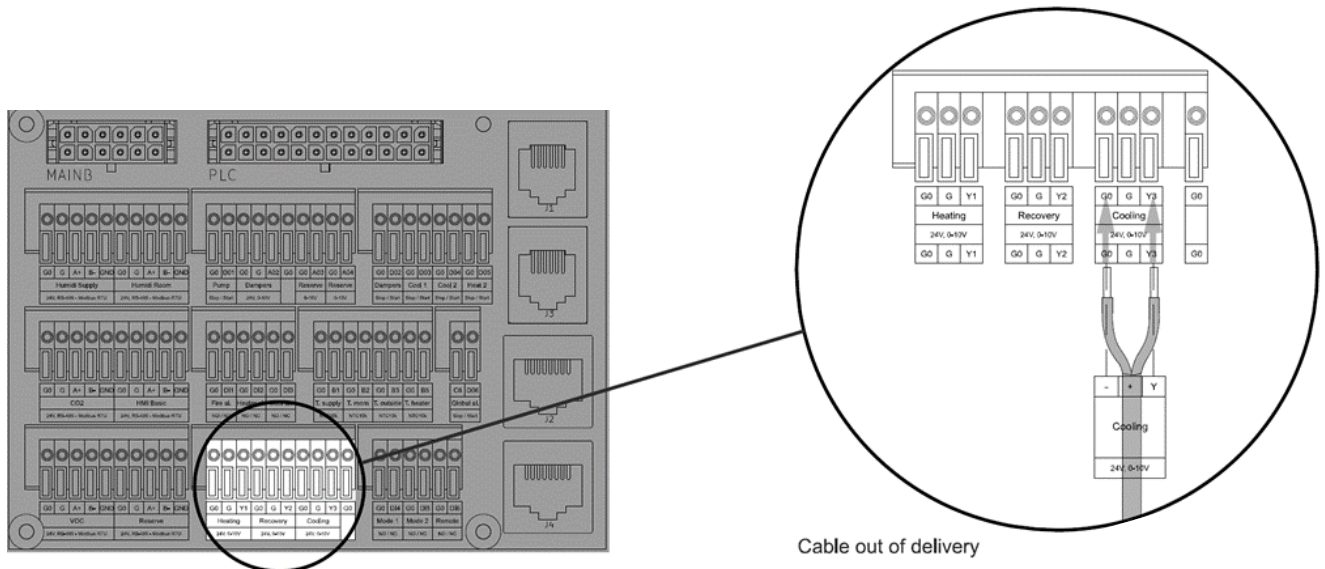


Figure 21 - 0-10 V analog signal output for DX compressor – cooling mode only

### DX COMPRESSOR FAILURE ALARM

For the AHU with DX coil, a signal informing the AHU about the compressor failure can be input. If such alarm is triggered, the AHU disengages the cooling function (depending on the mode). However, the AHU will keep running. Follow the Figure 22 to link the cooling medium source with the AHU controls. Communication cable is not supplied.



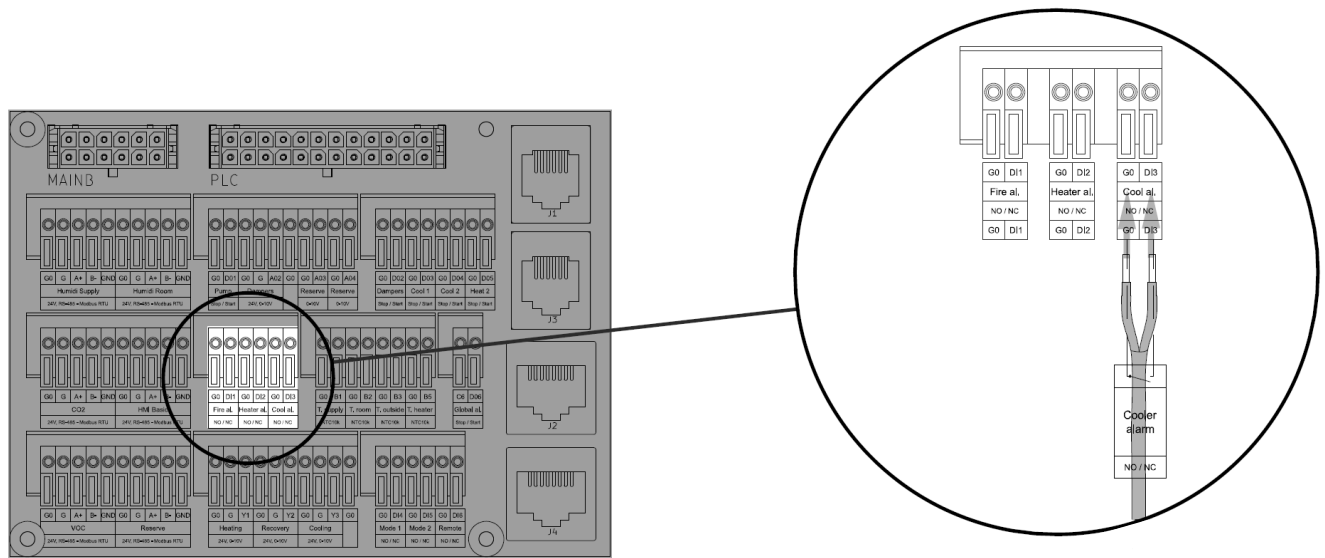


Figure 22 - DX compressor failure status binary signal

### **ON-OFF DX COMPRESSOR START PERMISSION SIGNAL – COOLING MODE ONLY**

For older types of DX compressors non-supporting capacity smooth regulation, a start permission signals can be output like shown on Figure 23. The system can output two signals:

- Signal Cooling 1 – for cooling capacity requirement between 0-50%
- Signal Cooling 2 – for cooling capacity requirement between 50-100%

Check, if your DX compressor has 2 inputs for above listed signals. If your compressor has only one binary star permission signal input, make only connection on Cooling 1 (G0, D03 terminals).

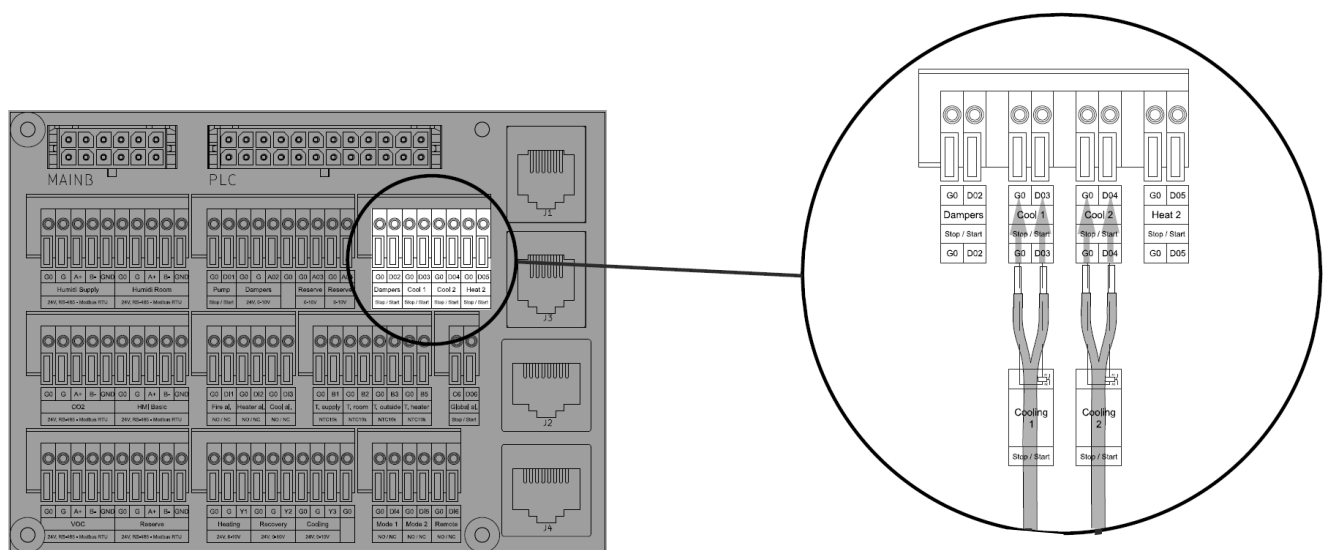


Figure 23 - 2 stages start permission binary signals output for DX compressor

Depending on number of binary outputs in use, a relevant setting must be done in the AHU controller settings. Refer to [Installation, Operation and Maintenance Manual VENTUS COMPACT VVS021c-VVS150c \[EN\]](#) or [Installation, Operation and Maintenance Manual VENTUS Supended VVS005s-VVS030s \[EN\]](#) (depending on Air Handling Unit type). Communication cable is not supplied.

### **DX COMPRESSOR COMMUNICATION SUPPORTING HEATING AND COOLING (REVERSIBLE OPERATION)**

For the DX coil supplied from DX compressor supporting both seasons operations (cooling and heating), follow below steps.

#### **DX COMPRESSOR ANALOG CONTROL SIGNAL FOR COOLING AND HEATING MODE**

For DX compressor enabling smooth capacity control for cooling and heating (reversible operation) mode, a 0-10V signal from the Air Handling Unit can be output and plugged to it. Connect the analog input of your DX compressor (0-10V standard) to the Cooling port (for the reversible operations, the Cooling port supports both modes), terminals **G0, Y3**. Communication cable is not supplied. See Figure 24.

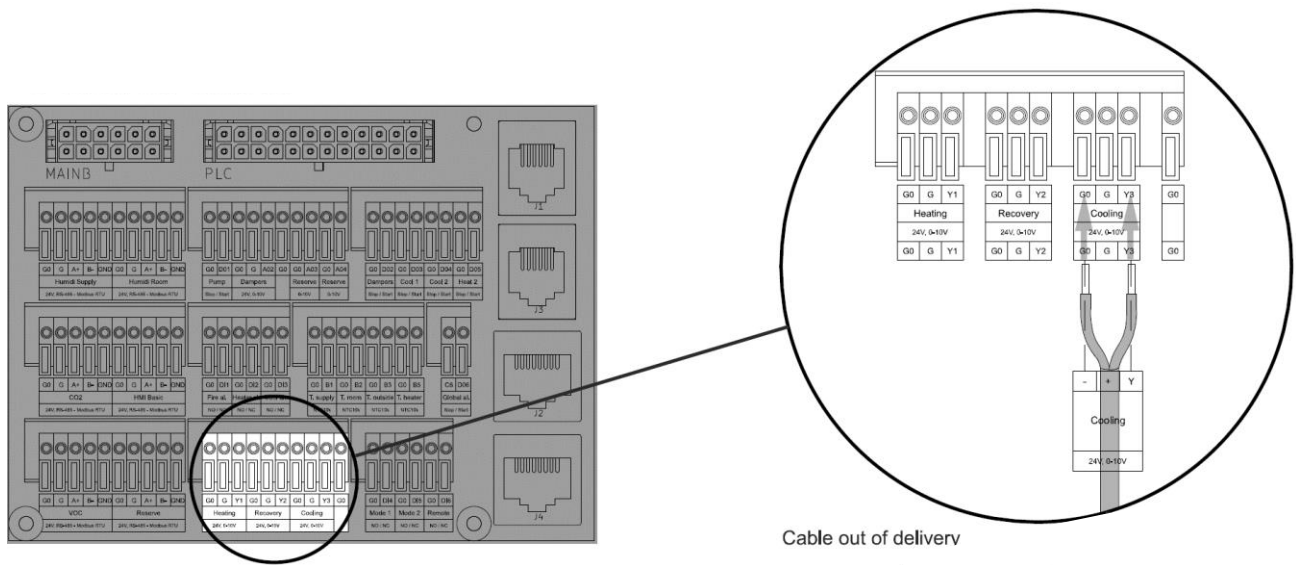


Figure 24 - 0-10 V analog signal output for DX compressor - cooling and heating mode

### **ON-OFF DX COMPRESSOR START PERMISSION SIGNAL – COOLING AND HEATING MODE**

For older types of DX compressors non-supporting capacity smooth regulation, a start permission signals can be output like shown on Figure 25. The system can output two signals:

- Signal 1 – for cooling or heating capacity requirement between 0-50%
- Signal 2 – for cooling or heating capacity requirement between 50-100%

Communication cables are not supplied.

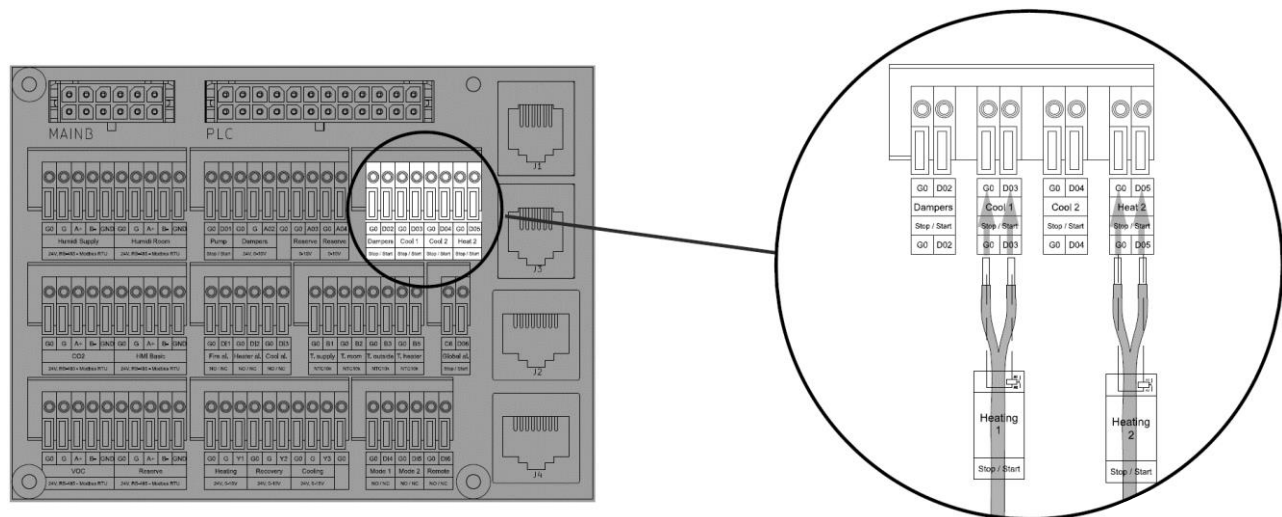


Figure 25 - Binary control signals for cooling and heating mode

### **HEATING / COOLING MODE INFORMATION FOR DX COMPRESSOR**

For DX compressor supporting both seasons operations (cooling and heating), auxiliary signal from the AHU can be output informing the compressor about currently engaged mode. Plug your signal cable to the Cool 2 port (G0, D04 terminals) as shown on Figure 26. Communication cable is not supplied.

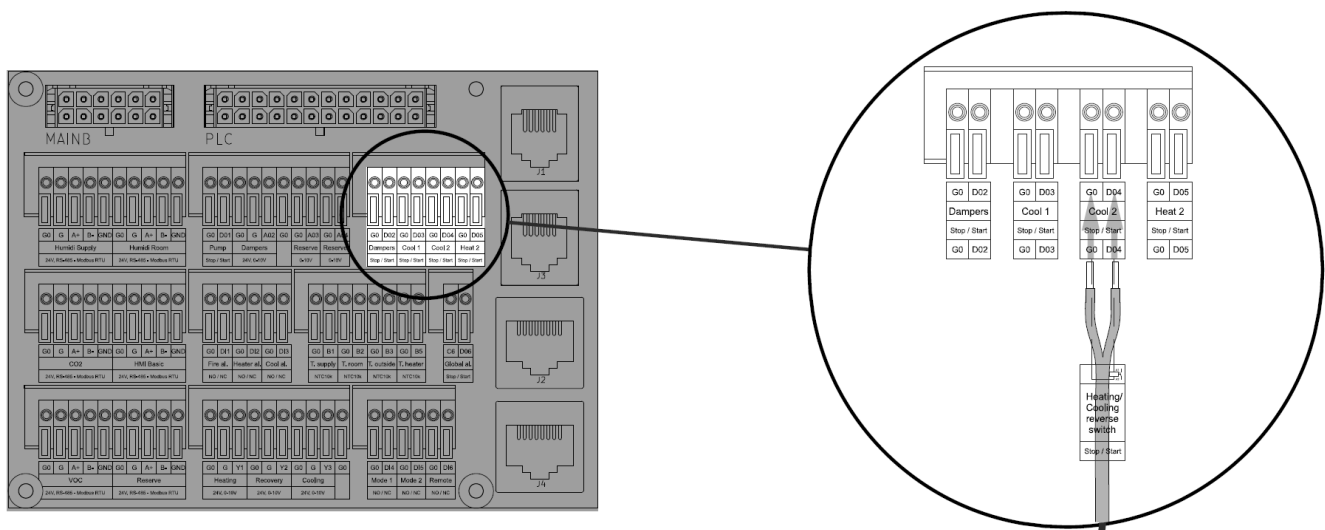


Figure 26 - Heating/Cooling mode information binary signal output

## CONNECTING THE AIR HANDLING UNITS TO MAINS

### Caution

Before attempting to connect the Air Handling Unit to the mains, ensure that all peripheral devices are connected, and the main power switch is in OFF position.

## VVS021c – VVS150c – FLOOR-MOUNTED COMPACT AIR HANDLING UNIT

### POWER SUPPLY CABLES

The power supply cables are not supplied by VTS. Before attempting to the connecting the unit to the mains, ensure that you are supplied with correct type of cable and minimum length of it. Apply relevant cable type and cross-section to our unit size as listed in Table 3.

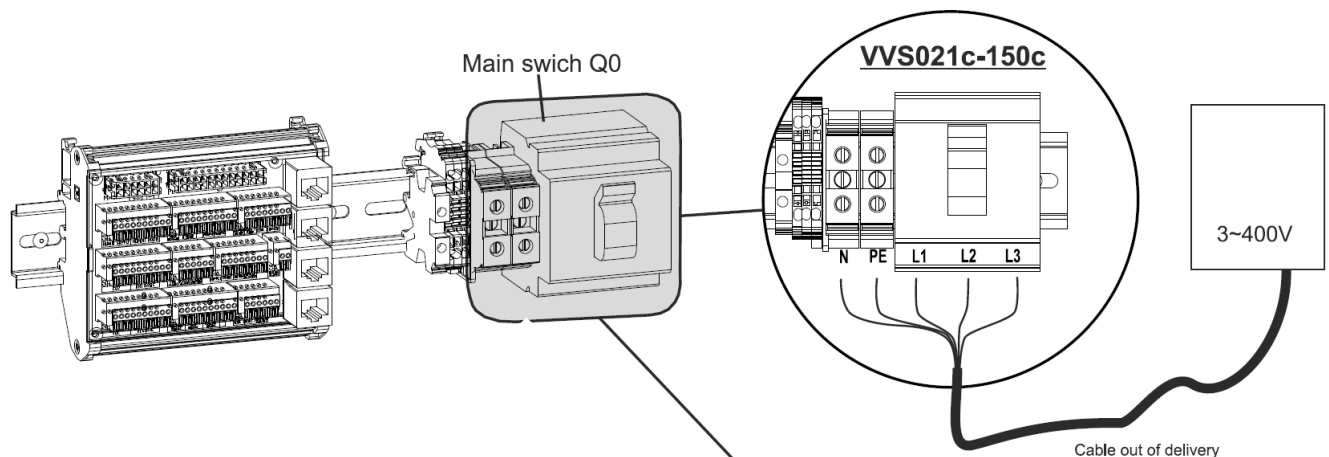
Table 3 - Power supply cables for VVSc Floor-mounted Compact Air Handling Units



VVSc unit size	Power supply standard	Cross-section
VVS021c	3x400 V AC	4 x 2,5 mm <sup>2</sup>
VVS030c		4 x 2,5 mm <sup>2</sup>
VVS0400c		4 x 2,5 mm <sup>2</sup>
VVS055c		4 x 4,0 mm <sup>2</sup>
VVS075c		4 x 4,0 mm <sup>2</sup>
VVS100c		4 x 6,0 mm <sup>2</sup>
VVS120c		4 x 6,0 mm <sup>2</sup>
VVS150c		4 x 10,0 mm <sup>2</sup>

### CONNECTION TO MAINS

Connect your air handling unit to the mains (Figure 27). For the VVSc range, the power supply standard is 3x400V AC.



## **VVS0005cs – VVS030s – CEILING SUSPENDED COMPACT AIR HANDLING UNIT**

### **POWER SUPPLY CABLES**

The power supply cables are not provided by VTS. Before attempting to the connecting the unit to the mains, ensure that you are supplied with correct type of cable and minimum length of it. Apply relevant cable type and cross-section to our unit size as listed in Table 4.

Table 4 - Power supply cables for VVSs Ceiling Suspended Compact Air Handling Units



VVSc unit size	Power supply standard	Power cable cross-section
VVS005s	1x230 V AC	3 x 2,5 mm <sup>2</sup>
VVS010s		3 x 2,5 mm <sup>2</sup>
VVS015s		3 x 2,5 mm <sup>2</sup>
VVS020s		3 x 4,0 mm <sup>2</sup>
VVS030s		3 x 4,0 mm <sup>2</sup>

### **CONNECTION TO MAINS**

Connect your air handling unit to the mains (Figure 28). For the VVSs range, the power supply standard is 1x230V AC.

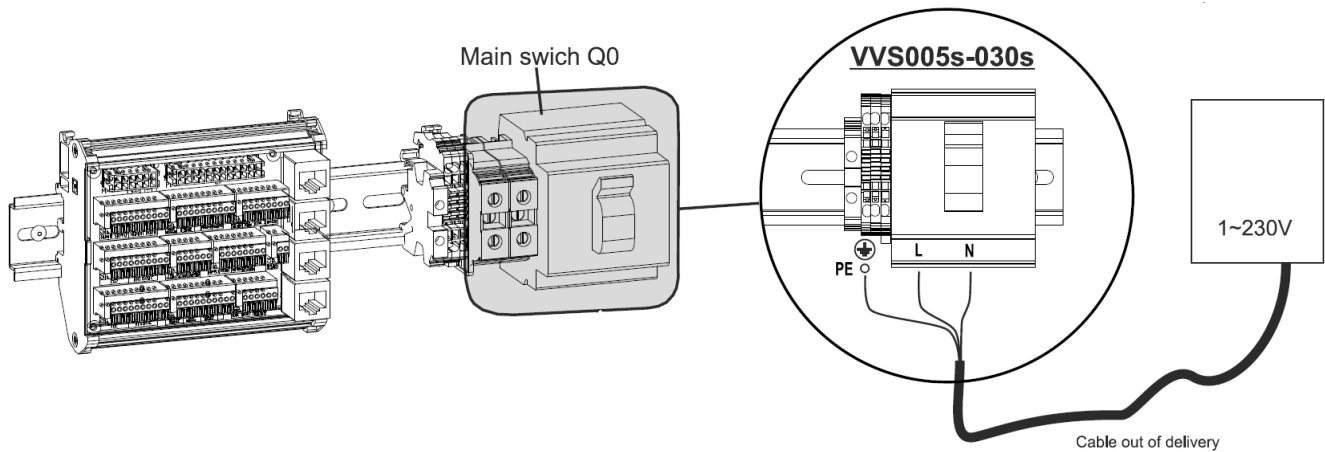


Figure 28 - VVSs Ceiling Suspended Compact Air Handling Unit - connection to mains, 1x230V AC

## **AIR HANDLING UNIT START-UP**

### **SWITCHING ON THE AIR HANDLING UNIT**

Before first switching on of your Air Handling Unit, verify all previously done actions with below check-list:

- Air Handling Unit is connected to the ducts
- Air Handling Unit is connected to the heating and cooling media sources
- All water coils are filled with water and vented
- DX coil is properly connected to the DX compressor
- Electric heater is properly connected to mains
- All peripheral control elements are properly installed on the AHU and crossed to the switchboard
- All inspection panels of the AHU are closed and locked
- Base Air Handling Unit is properly connected to the mains

If above check list is positively passed, start the Air Handling Unit using main power switch (Figure 29).

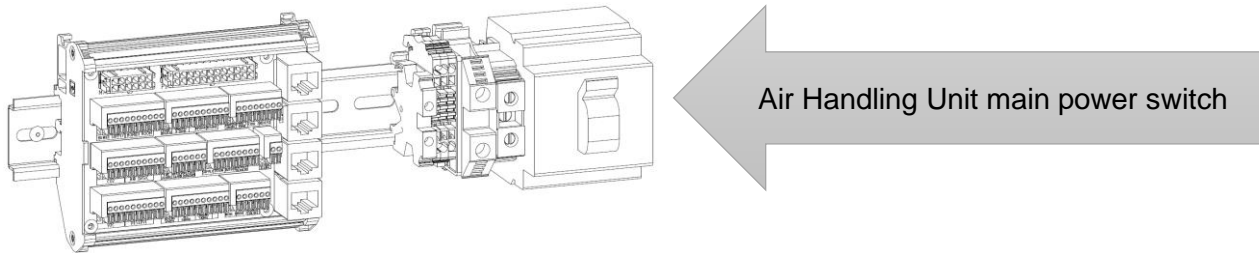


Figure 29 - Main power switch of the Air Handling Unit

### **START-UP BY MEANS OF THE HMI BASIC**

In this chapter the basic AHU operations with use of HMI Basic interface will be demonstrated.

#### **LOOK OF THE HMI BASIC AND FUNCTION BUTTONS**

The HMI Basic interface is equipped with the following control elements (Figure 30):


- LCD display
- Mode button – located in left-upper corner
- Time schedule button (clock pictogram) – located in left center
- Adjustment knob with button – combined knob and button in one located in center of the interface below the LCD display
- On/Off button (On-Off pictogram) located in the right center
- Fan speed button (Fan pictogram) – located in the right-upper corner

Figure 30 demonstrates the look of the HMI Basic for the Air Handling Unit in Off mode. Besides the Off message, the current time and day of the week will be displayed (for time and calendar settings refer [Installation, Operation and Maintenance Manual VENTUS COMPACT VVS021c-VVS150c \[EN\]](#) or [Installation, Operation and Maintenance Manual VENTUS Supended VVS005s-VVS030s \[EN\]](#)).



Figure 30 - HMI Basic interface. Off mode

#### **TURNING THE AIR HANDLING UNIT INTO ON MODE**

To change the Air Handling Unit into On mode, press and hold the  button (Figure 31).

The interface look will change. Instead of Off message, the temperature of the leading temperature sensor will be displayed. Current time and day of the week will be still displayed.


Mind, that putting the AHU into the ON mode doesn't mean starting the fans. This will come in next step.



Figure 31 - Air Handling Unit in On mode



## **RUNNING THE AHU**

To run your unit (start your fans to spin) in the manual mode, press  button located in right-upper corner of the HMI Basic interface. This will change the mode of your unit to Low fan speed. Press the button again and again to change the AHU mode between Low-Medium-High-Auto and Off mode. The sequence of toggling between operation modes is shown on Figure 32.

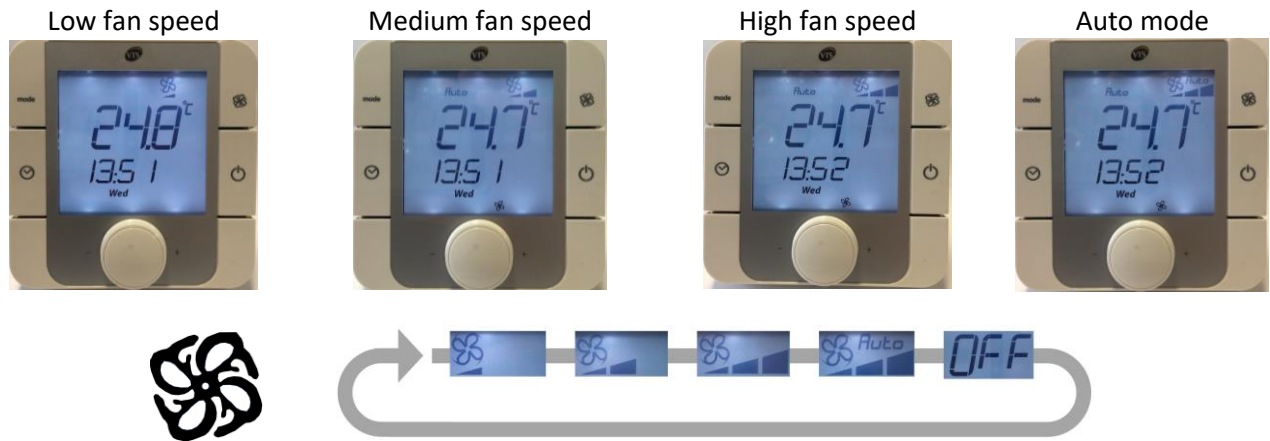


Figure 32 - Toggling between fan speed in manual mode

**NOTE!** The Auto mode means that Air Handling Unit operation is managed by time schedule. To find how to set the schedule and how to use more advanced functions of the HMI Basic interface, refer to [Installation, Operation and Maintenance Manual VENTUS COMPACT VVS021c-VVS150c \[EN\]](#) or [Installation, Operation and Maintenance Manual VENTUS Suspended VVS005s-VVS030s \[EN\]](#).

## **CHANGE TO AIR TEMPERATURE SET-POINT**

To change the required air temperature set-point, turn the knob located below the main display of the HMI Basic (Figure 33). The required value of the air temperature set-point will follow the turns of the knob – will increase for right turns and decrease for left.

After change, no additional confirmation is required – the system will remember your recent settings and will adjust its heating or cooling capacity to adjust the air temperature to your settings.



Figure 33 - HMI Basic. Temperature set-point

## **START-UP BY MEANS OF THE HMI ADVANCED**

### **LOOK OF THE HMI ADVANCED AND FUNCTION BUTTONS**

The HMI Basic interface is equipped with the following control elements (Figure 34):

- LCD display
- Alarms status display button – marked with a bell symbol, located in left-upper corner
- Programming button (Prg) – located at left-center.
- Escape button (Esc) – located in left-lower corner
- Select-up button (Arrow directed upwards) – located in right-upper corner
- Enter button (symbol of enter function) – located in right-center
- Select-down button (Arrow directed downwards) – located in right-lower corner

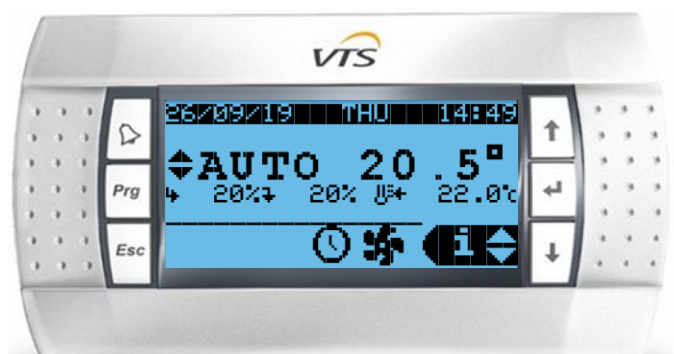


Figure 34 - HMI Advanced interface

### TOGGLING BETWEEN OPERATIONAL MODES

The HMI Advanced enables to toggle between various operational modes, like the ones available from HMI Basic interface. To toggle between the modes, do the following.

Ensure that your HMI Advanced is displaying the main menu. You can press the Esc button few times, until you observe no changes on the display.

The sequence of the operational modes selected by the “Prg” button are demonstrated on Figure 36).

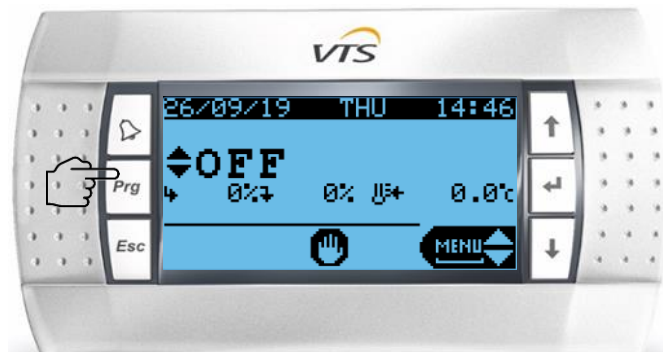


Figure 35 - Active operational mode

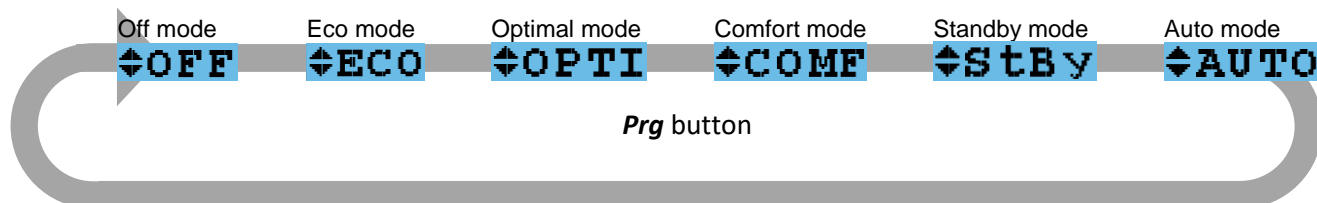


Figure 36 - HMI Advanced: Toggling between operational mode

Functions of above listed operational modes are:

- Off – Air Handling Unit is in off mode – Fans are stopped and will not be activated by any signal.
- Eco – fans revolutions set to low. The handled airflow is set to low.
- Optimal – fans revolutions set to medium. The handled airflow is set to medium.
- Comfort – fans revolutions set to maximum. The handled airflow is set to maximum rated for your unit.
- Standby – unit is in standby mode. Fans will be periodically triggered to run in order to maintain required temperature of the air. This mode is best for nighttime, where low or zero occupancy of the building occurs.
- Auto – the Air Handling Units operations are managed by time schedule.

**NOTE!** To find how to set the schedule and how to use more advanced functions of the HMI Basic interface, refer to [Installation, Operation and Maintenance Manual VENTUS COMPACT VVS021c-VVS150c \[EN\]](#) or [Installation, Operation and Maintenance Manual VENTUS Supended VVS005s-VVS030s \[EN\]](#).

### AIR TEMPERATURE ASSIGNING FOR BASIC OPERATIONAL MODES

To re-assign the temperatures for Eco, Opti and Comf modes press the ↓ button few times, till you see the “Set” function in the right-bottom corner of the display (as shown on Figure 37). Then hit Enter button (↵).

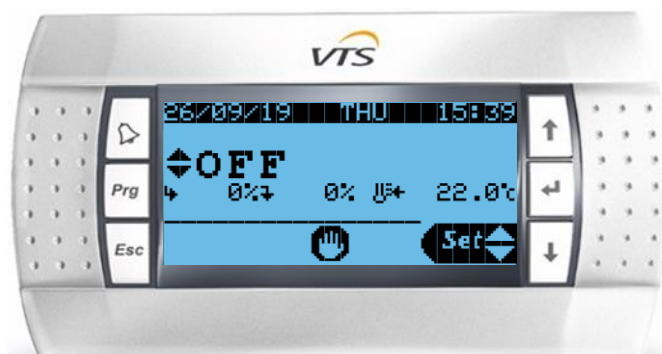


Figure 37 - Entering air temperatures settings

Select the operational mode you want to modify – to do it toggle between them using Enter button (↵).

Use arrows keys to change the value of the temperature settings and approve the changes by pressing Enter button (↵).

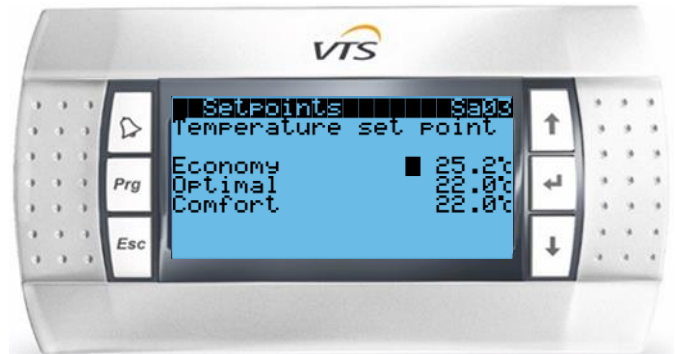


Figure 38 - Air temperature settings for each mode



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