



VTS HMI Basic 2 HY Air Handling Unit User Manual

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VTS HMI Basic 2 HY Air Handling Unit



HMI Basic 2 HY is a basic control panel, designed to operate VTS air handling units equipped with the uPC3 controller.

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Panel functions

- AHU starting and stopping
- operating mode selection
- the ability to view and change the parameters of individual operating modes (temperature, humidity, CO2 level, speed of supply and exhaust fans)
- reading of leading, outside and room temperatures (built-in room temperature sensor)
- setting the AHU operation according to the schedule
- alarm handling (viewing, deleting)

Activating the panel in the settings of the AHU controller

The panel is designed for air handling units equipped with the uPC3 controller with software version 1.0.019 or higher. To enable its support, from the level of HMI Advanced (physical, connected to the pLAN port of the controller or virtual, which is part of the visualization application), go to the service menu and change the last digit of the application code on the I01 screen to 7.

The default Modbus address of the HMI Basic 2 HY is 16. It can be changed on the I05 HMI Advanced screen (HMI Basic 2 line).

If there is no communication between the AHU controller and HMI Basic 2 HY, only the room temperature will be displayed on the HMI screen and the controller will report an appropriate alarm (A1096).





Connections

The HMI is powered by 110-230V AC mains voltage. To ensure proper operation, use separate power and control cables, not exceeding the recommended length of 500m. The following types of cables are recommended:

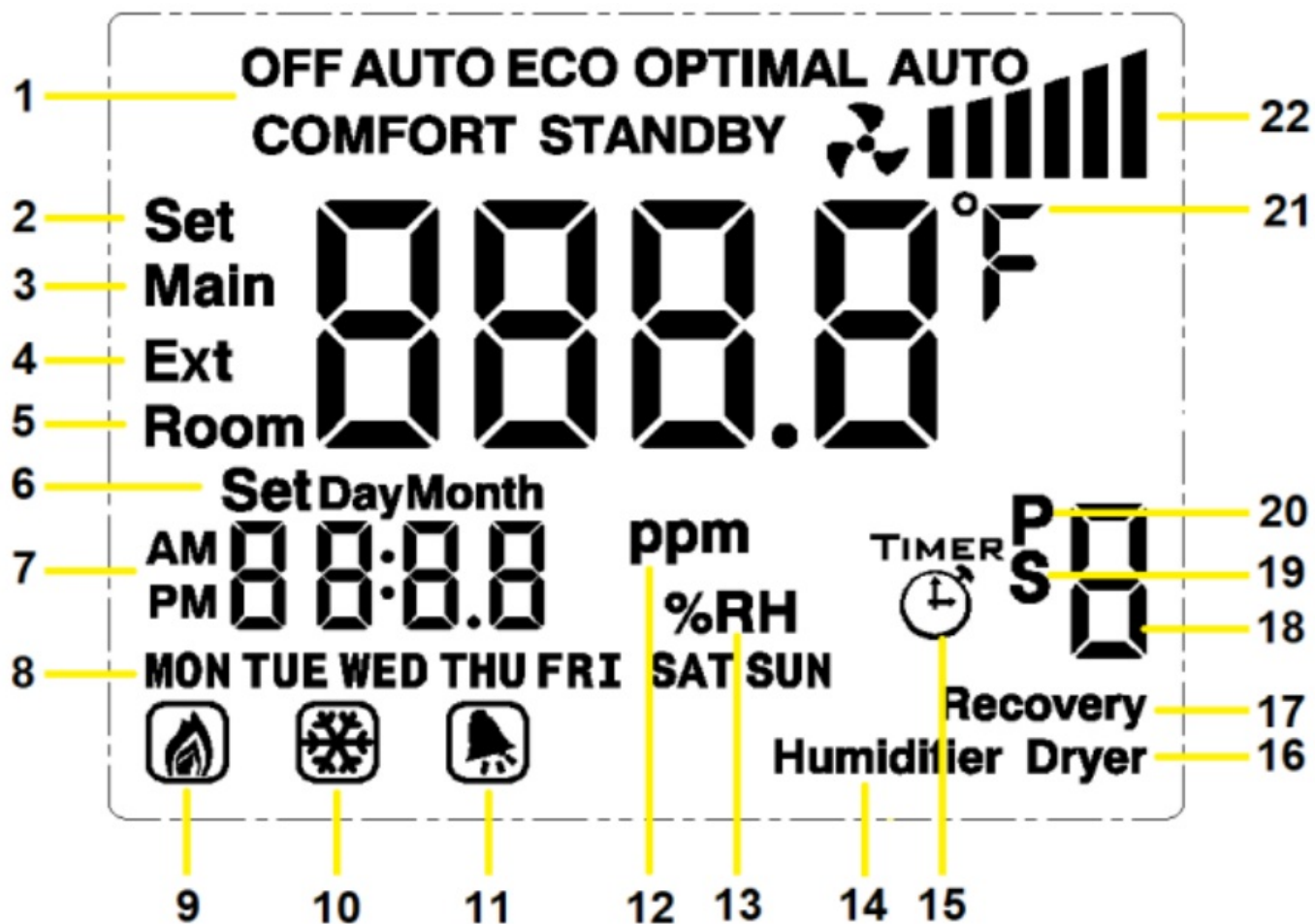
- power supply: H05VV-F 2×1 mm²
- communication: FTP 3×0,22 mm²

red wire	RS 485 A
white wire	RS 485 B
L	110-230V AC L
N	110-230V AC N
O1	unused
O2	unused
X	unused
AO	unused
GND	RS 485 GND
IN	unused
IN	unused

Keyboard





button	function
	changing the operating mode / going to the settings menu / returning to the previous menu
	confirming the selection / going to the next setting of the parameters / returning to the general settings menu
	switching between displayed temperatures / returning to the home screen / turning the screen off
	changing parameter values

Display




1	current work mode	12	air quality
2	temperature setting	13	humidity
3	leading temperature	14	humidifying
4	external temperature	15	day schedule
5	room temperature	16	dehumidifying
6	date setting	17	recovery
7	clock	18	setting number
8	week day	19	special schedule
9	heating	20	periodic schedule
10	cooling	21	temperature unit
11	alarm	22	fans control level

The visual indication of the fan operation level (point 22 on the display) is based on the current control point of the supply fans and is defined as follows:


icon on the display	fans control level
	0%
	$0 < \% \leq 60$
	$60 < \% < 80$
	$80 \leq \% \leq 100$

If there is no communication with the controller, HMI Basic 2 HY will only display the current room temperature.

Turning the panel on and off

To turn off the panel screen, hold down the  button. Switching on is done by briefly pressing the same button. Turning off the HMI panel does not mean turning off the AHU – to turn off the unit, select the Off operating mode. The display backlight is turned off automatically after a user-defined time. The backlight is activated by pressing any key. After activating the backlight, it is possible to perform further operations with the use of the panel.

Selecting the operating mode

On the main screen, press the  button to select the operating mode from among those visible in the upper part of the screen (Off / StandBy / Eco / Opti / Comfort / Auto).




Preview of parameters set for the current operating mode

It is possible to check the chosen values for the selected operating mode:

- set temperature
- humidity
- CO2 level
- supply fan speed (S)
- exhaust fan speed (E)





To do this, press   on the main screen.

Changing the parameters of individual operating modes

On the main screen, hold down the  button, and then by pressing  again, select the mode you are interested in (StandBy / Eco / Opti / Comfort) and confirm your selection with . We now have the option to set the parameters values associated with a given mode:

- set temperature
- humidity
- CO2 level
- supply fan speed (S)
- exhaust fan speed (E)

Access to individual settings depends on the AHU configuration and its actual components.

Changes are done by means of  , approval – the  button. Exit to the main screen occurs automatically after a moment of inactivity or after pressing .

Change of the temperature displayed on the main screen




HMI Basic 2 HY enables displaying the current value of one of the three temperatures on the main screen:




- leading, on the basis of which the AHU operation is carried out (Main)
- external (Ext)
- room (Room)

Switching between them is done by pressing successively on the main screen.

Setting the AHU work schedule

The HMI Basic 2 HY panel is equipped with the possibility of setting and modifying the AHU work schedule. Changes made from the panel level also affect the schedule available in HMI Advanced and the visualization – it does not constitute a separate schedule, but allows full access to the existing one.



On the main screen, hold down the  button, and then with successive  presses select the Auto submenu and confirm the selection with  button.

Now select one of the schedules with the   and confirm it with the  button:

- **Timer** – daily schedule that allows you to program up to 4 mode changes each day at a selected time, separately for each day of the week. We select respectively: the day of the week, activation (On / Off) of individual actions, the time at which the action is to be performed and the mode to be set. By confirming the next parameters, we proceed to the parameterization of the next action (digits 1-4 displayed on the right side of the screen determine which of them are currently being set).
- **P** – periodic schedule, enabling the selection of up to 3 periods of the year in which the AHU is to operate in the selected mode (this type of schedule has higher priority than the daily schedule). We select respectively: activation (On / Off) of individual periods, date of their end and beginning and the mode to be set. By confirming the next parameters, we proceed to the parameterization of the next period (digits 1-3 displayed on the right side of the screen determine which of them are currently being set).
- **S** – special schedule that allows to select up to 6 special days a year in which the AHU is to operate in the selected mode (this type of schedule has priority higher than the daily and periodic schedule). We select respectively: activation (On / Off) of a particular special day, its date and mode to be set. By confirming the next


parameters, we proceed to the parameterization of the next special day (digits 1-6 displayed on the right side of the screen determine which of them are currently being set).

- **T – unused**


Changes are done by means of \triangle ∇ , approval –  button. Return to the previous menu – **SET**. Exit to the main screen occurs automatically after a moment of inactivity or after pressing .



Alarm handling

HMI Basic 2 HY allows to view and delete active alarms. When an alarm is present, the bell symbol is displayed on the screen and the alarm number is displayed in place of the current time.


Deleting an alarm, after removing its causes, is done by holding down the  button.


Setting the clock and calendar of the uPC3 controller

On the main screen, hold down the **SET** button, and then confirm entering the Set Day submenu with . This way we will go to the setting of, respectively: current time, day of the week, month, day and year.

Changes are done by means of \triangle ∇ , approval – the  button. Exit to the main screen occurs automatically after a moment of inactivity or after pressing .

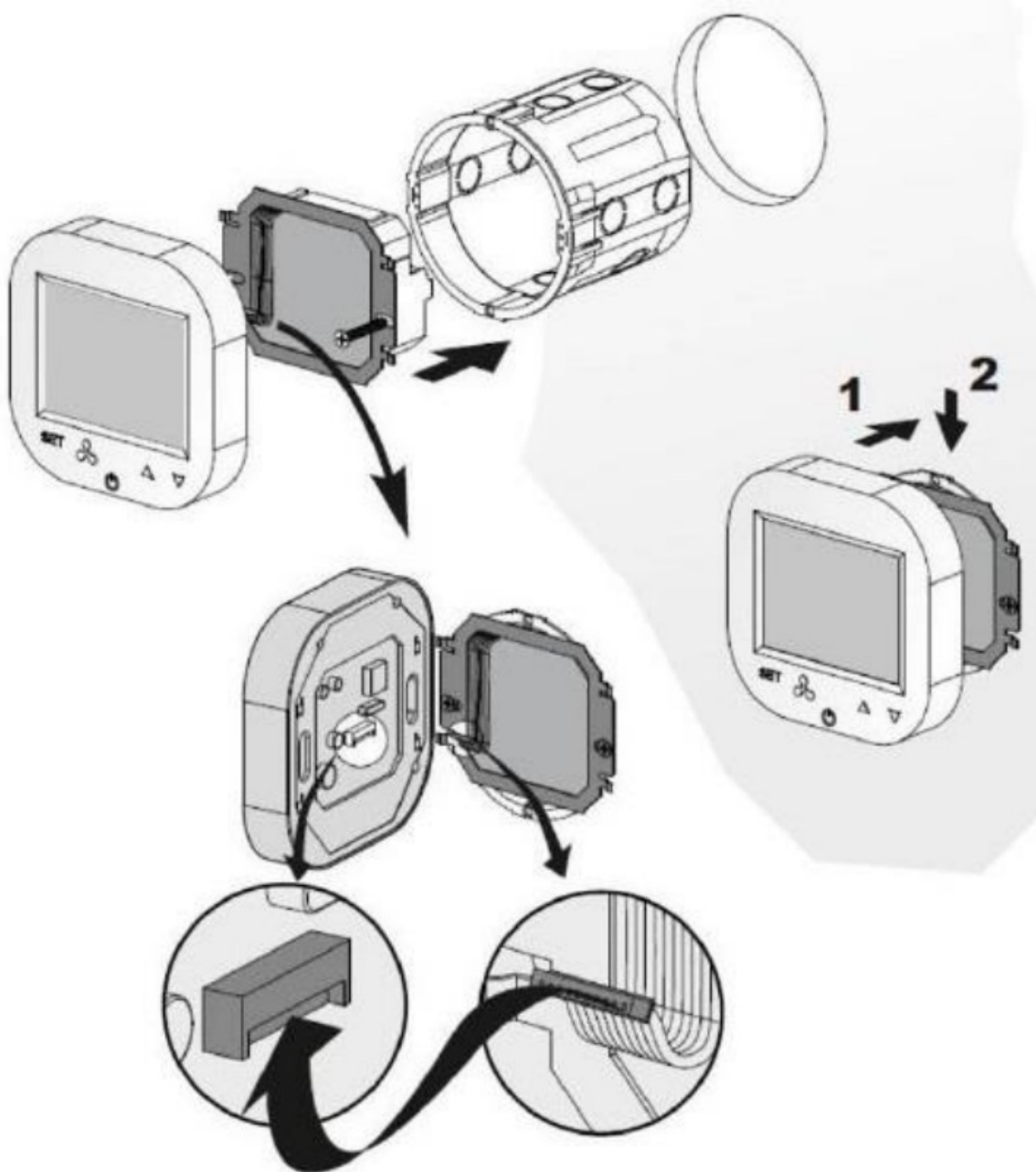
Programming mode

When the display is turned off by holding down the  button, hold down the **SET** button to enter the programming mode (change of advanced parameters).

Successive presses of the **SET** button switch between parameters, and use of \triangle ∇ set their value. Exit from the menu occurs automatically after a moment of inactivity or by pressing .

parameter	range	default value	description
IP	1 – 255	16	Modbus – address
A1	2400 / 4800 / 9600	9600	Modbus – speed
A2	0 / 1 / 2	0	Modbus – parity (0 = none, 1 = even, 2 = odd)
A3	12 / 24	24	clock mode [h]
A4	00 / 01	00	temperature units (00 = °C, 01 = °F)
A5	0 – 300	10	backlight time [s]
A6	-9,9 ... 9,9	0	built – in temperature sensor offset [°C]

Assembly diagram




Specification

device type	control panel; regulator
temperature measurement	0°C ... 70°C, 10k NTC
interface	membrane keyboard physical buttons
communication	Modbus RTU (2400 / 4800 / 9600 bps)
power	110-230V AC
power consumption	1,5 VA
display	backlit, graphic LCD
construction	ABS + polyester
size (W x H x D)	86 x 86 x 17 mm
allowed working temperature	0°C ... 50°C
place of destination	for indoor installation (IP20)
assembly	in a standard Ø60 installation box on a mounting bracket
weight	150g



Documents / Resources

	VTS HMI Basic 2 HY Air Handling Unit [pdf] User Manual HMI Basic 2 HY Air Handling Unit, HMI Basic 2 HY, Air Handling Unit, Handling Unit, Unit
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