

USER MANUAL



CONTROLLER CP Touch



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Key

	Chapter symbol
	Important notes

Controller description:

The CP Touch controller can be connected to DUPLEX units fitted with an RD5 control board. The CP Touch provides full control for these units, i.e. service parameter settings (password protected) as well as user settings. It has a manual mode, allowing the user to choose directly the operating mode of the unit, and a weekly mode controlling the unit according to a weekly program. The software version is also shown in the user setting of the controller (📖 6.8).

! Note: The CP Touch controller's commissioning and connection to a DUPLEX units may only be done by a specialist company with up-to-date training certification for DUPLEX units with RD5 controls.

1 Installation

First, mount the controller on the designated location on the wall.

It can be mounted on a standard electrical box with a hole spacing of 68mm.

Step 1: Before installation dismantle the controller, removing its front from its back.

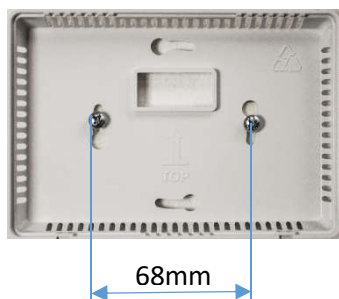


Step 2: Place the back on the designated spot on the wall and fix it using screws.

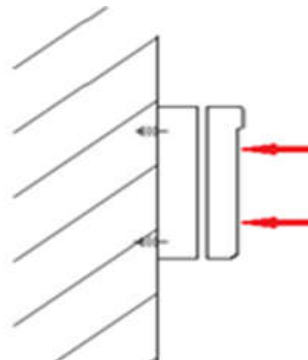
The box can be clipped on from one direction only



Step 3: Clip the front with display onto the fixed back.



Cross-section of the wall with the controller box



Step 4: Controller mounted on the wall.



! The CP Touch must not be connected or disconnected when the unit is connected to power supply.

1.1 Connecting the controller to the unit

! For the controller’s electrical connection follow the wiring diagram located in the lid of the AHU’s cabinet.

If there more controllers connected, they must be in a series as shown in Fig. 1.

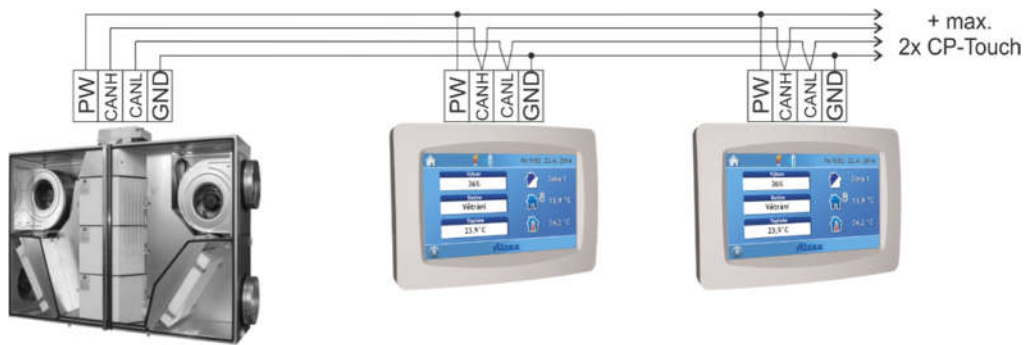


Figure 1

Note

According to the diagram up to four controllers can be connected to a unit with RD5 controls. The last controller on the bus bar must have an activated termination resistor – jumper short circuit, see Fig. 2.

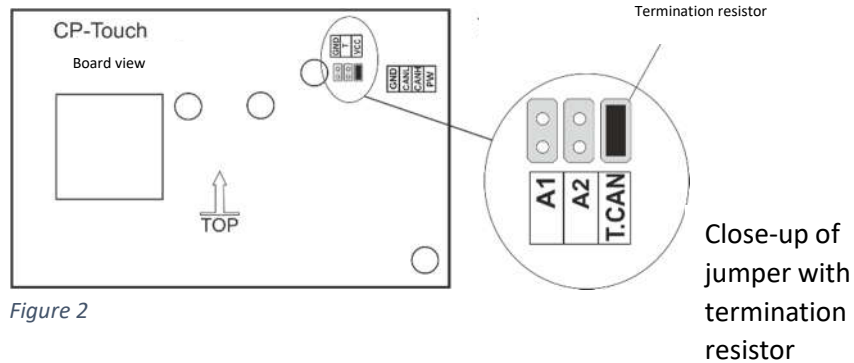


Figure 2

The back of the controller board has jumpers at designated points as shown in Fig. 2:

T.CAN – A termination resistor jumper; the jumper must be fitted on the last controller in line.

A1 – 1. Controller addressing jumper

A2 – 2. Controller addressing jumper

The jumpers of each controller on the same bus bar must have different address.

Table 1 shows controller connection options. When more controllers are installed, their addressing must be different. The last controller in the series must be terminated with a T.CAN jumper.

Number of controllers connected	A1	A2	T.CAN
1	0	0	✓
1	0	0	0
2	✓	0	✓
1	0	0	0
2	✓	0	0
3	0	✓	✓
1	0	0	0
2	✓	0	0
3	0	✓	0
4	✓	✓	✓

Table 1

0.....Unconnected jumper

✓.....Connected jumper

2 Controller description and functions

Turn on the light of a connected controller by clicking on the dark screen.



The CP Touch controller can be connected to DUPLEX units fitted with an RD5 control board. The CP Touch provides full control for these units, i.e. service parameter settings, protected by a password.

The controller enables:

- A manual mode, allowing the user to choose directly the operating mode of the unit.
- A weekly mode to control the unit according to a weekly program.

3 Starting the display

After switching the CP Touch on, a starting screen appears with additional information on the status of communication with the unit.

Text/Status	Controller operation
Waiting for status	The launch application is waiting for the controller's executing part to start up; this takes approximately 10 s
Loading application	Loading of the application in the controller, which takes up to 10 s. The controller screen may darken for several seconds.
Downloading application	An updated version of the application is being downloaded from the control board; this may take approximately 4 minutes.
Waiting for connection	The controller is waiting for communication with the control board; if this takes more than 3 minutes, the screen switches to "Communication Error"
Main screen appears, but data are "0"	The controller's application has loaded properly, but communication with AHU controls is not available yet. This status may appear after switching the unit's power supply when the control module application has not been launched yet after starting power supply. It should not last longer than 1 minute.
Communication error	Communication between the controller and the unit has not been established. A new attempt to connect is made after restarting power supply.

Table 2

Main screen:

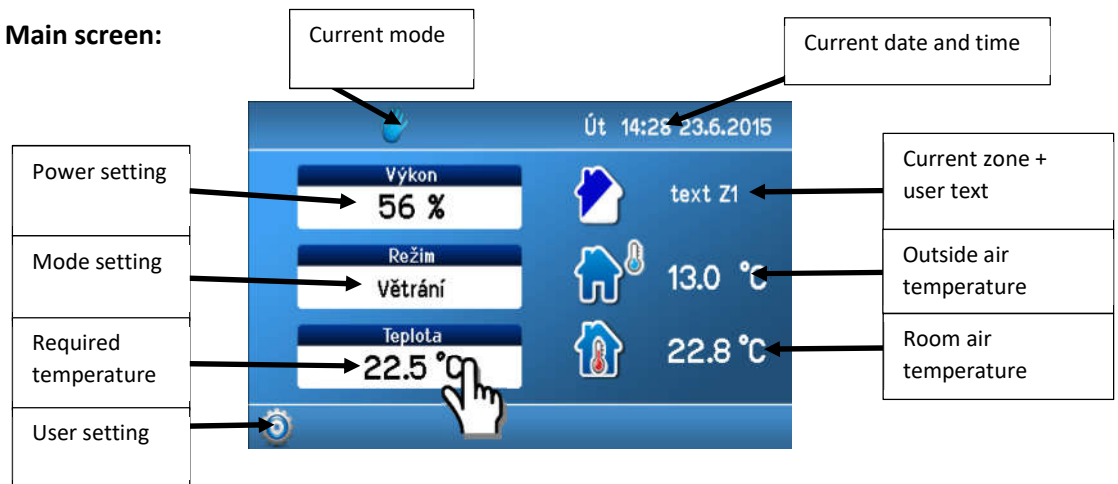


Figure 3

To adjust parameters on the main screen, click on a parameter, see Fig. 3.

4 Symbols and their meanings

- Required parameter setting mode symbols; one of the symbols is always displayed.

4.1 Symbols on the main screen












Group 1		Manual control of the unit
Group 2		Unit control according to a weekly program
		Temporary manual change of the weekly program
Group 3		Party/Holiday mode active
		Bank holiday mode active
Group 4		Symbol indicates heating
		Symbol indicates cooling
Group 5		Active alarm symbol (yellow)  8
		Active notification symbol (blue)  8

Table 3

4.2 Navigation symbols




	Clicking returns the screen one level back
	Clicking returns the screen to the main screen
	Current language icon; clicking on the flag shows the page with language settings

Table 4

4.3 Symbols fixed on the main screen






 13,9 °C	Next to this symbol, outside air temperature T-ODA is shown
 24,2 °C	If extraction / room temperature control is used, interior temperature T-IDA is shown (room or extraction air temperature)
 23,7°C	If supply air temperature control is used, supply air temperature T-SUP is shown
	User interface access icon
	Service settings accessible after entering a password; any data in the service settings may be edited only by an authorized service technician.

Table 5

5 Blocks on the main screen

5.1 "Power" block



Figure 4

It shows the unit's power level current at the time in % or m³/h according to the configuration of the unit.

The current power level value may not correspond to the value set manually or in the weekly program. If that is the case, the power level required is generated by a closed input or a connected sensor such as that of CO₂ concentration.

5.2 “Mode” block



Figure 5

It shows a mode current at the time, with options as provided by the unit's configuration.

The current mode parameter may not correspond to the parameter set manually or in the weekly program. If that is the case, the power level required is generated by a closed input D1 - D4 or one of the inputs IN1 - INk4/2.

5.2.1 List of modes (defined by the type and configuration of the unit)

OFF – The unit is switched off.

Automatic - The unit is in “OFF” mode. It is started by the periodic ventilation timer or when input status changes (Dn, INk).

Ventilation – The unit is ventilating at a power level set or higher as set by an external input which is active.

Night pre-cooling – The unit is in “OFF” mode. It starts ventilation if temperature in the room is higher than required and outside air temperature is lower than room temperature.

! The night pre-cooling function requires that the $T-ETA > T_p$ condition be met.

Disbalance - M-SUP and M-ETA fan control according to the power level required and the value of the required M-SUP correction parameter. It depends on the correction setting, which remains unchanged.

Circulation – The unit is circulating air in the room. It heats and cools as required.

5.3 “Temperature” block



Figure 6

It displays temperature in °C current at the time.


The current temperature level value may not correspond to the value set manually or in the weekly program. If that is the case, the temperature required is generated by a closed input D1 – D4 and parameters set for one of these inputs if a specific temperature for Dn inputs is set.

5.4 “Zone” block




Figure 7

It shows a ventilation zone required at the time.




! Zone ventilation is set by clicking on the Zone icon  on the main screen.

The zone requirement current at the time may not correspond to the value set manually or in the weekly program. If that is the case, the zone requirement is generated by a closed input D1 – D4 and parameters set for one of these inputs.


Note

Zone texts can be set, for more information see  6.6. The initial zone description setting is: Text Z1 / Text Z2 / Text Z1+Z2.

Active ventilation zone symbols with captions:

 - Active zone 1,  - Active zone 2,  - Active zones 1+2

6 User settings

By pressing the button  on the main screen user setting options are displayed on the main screen.

6.1 Parameters

The “Parameters” options allow choosing operating parameters, setting the HS / NHS parameters and setting automatic switching between HS and NHS.

6.1.1 Control

“Manual” – The operating modes of the unit are selected directly by the user.

“Weekly program” – The unit is controlled according to the weekly program.

6.1.2 Switching between HS/NHS


This allows setting the heating or non-heating season or automatic switching between them.

“NO” – The IN1 input (analogue control input) is always effective.

“HS” – Heating season; supply air heating or room heating is allowed.

“NHS” – Non-heating season; supply air cooling or room cooling is allowed.

“T ODA-” – Automatic switching between HS/NHS based on outside temperature.

The switch-over value is set by parameter “Temperature HS/NHS” ( 6.1.3). If outside temperature is higher than Temperature HS/NHS, the Non-heating season is selected automatically. If outside temperature is lower than Temperature HS/NHS, the Heating season is selected automatically.

“T ODA+” – Automatic switching between HS/NHS based on outside temperature and a ratio between required and room temperatures. The switch-over value is set by parameter “Temperature HS/NHS”.

Note

- If outside temperature is higher than Temperature HS / NHS, the Non-heating season is selected automatically.
- If outside temperature is lower than Temperature HS/NHS and at the same time room temperature is higher than the required temperature by more than 5°C, the NHS remains active until outside temperature does not drop below 0°C.
- If outside temperature is lower than 0°C, the HS is always set automatically.

6.1.3 HS / NHS temperature

An outside air temperature level for automatic switching between the HS and NHS.

6.1.4 Current season

Indication of a season currently selected – HS or NHS. This parameter is not one for setting but providing information only.

6.2 Control settings

Settings in this chapter describe the conditions of ventilation operation by the AHU.

6.2.1 Blocking input IN1 (No / HS / NHS)

The effect of input IN1 on the ventilation unit's operation may be limited according to the season currently selected at the time.

„No“ – The IN1 input is always effective.

„NHS“ – The effect of input IN1 on the unit's operation is blocked during the Non-heating season.

“HS” – The effect of the IN1 input on the unit's operation is blocked during the Heating season.

6.2.2 Blocking input IN2 (No / HS / NHS)

The effect of analogue input IN2 on the ventilation unit's operation may be limited according to the season currently selected at the time.

„No“ – The IN2 input is always effective.

„NHS“ – The effect of input IN2 on the unit's operation is blocked during the Non-heating season.

“HS“ – The effect of the IN2 input on the unit's operation is blocked during the Heating season.

6.2.3 Heating hysteresis

To set a temperature difference compared to the temperature required to start heating. The setting range is between 0.1 °C and 5 °C (0.1 °C steps).

6.2.4 Cooling hysteresis

To set a temperature difference compared to the temperature required to start cooling. The setting range is between 0.1 °C and 5 °C (0.1 °C steps).

6.2.5 Bank holidays

Settings as per user requirements; up to sixteen different dates can be set.

Steps for bank holiday settings:

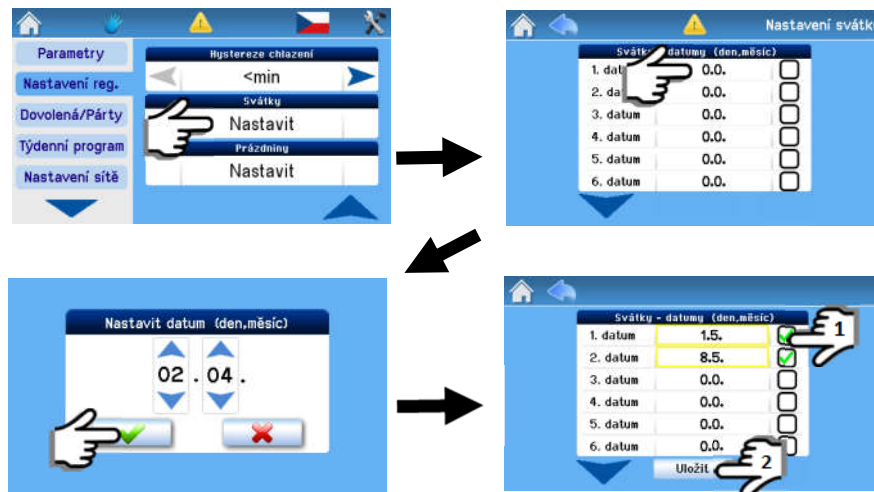


Figure 8

The AHU unit is controlled according to bank holiday settings when:

- The unit is in weekly program control mode
- There is a bank or school holiday on the day current at the time
- The bank holiday (school holiday) date is ticked in the holiday settings

6.2.6 School holidays

Settings as per user requirements; up to four different holiday periods can be set.

Steps for school holiday settings:

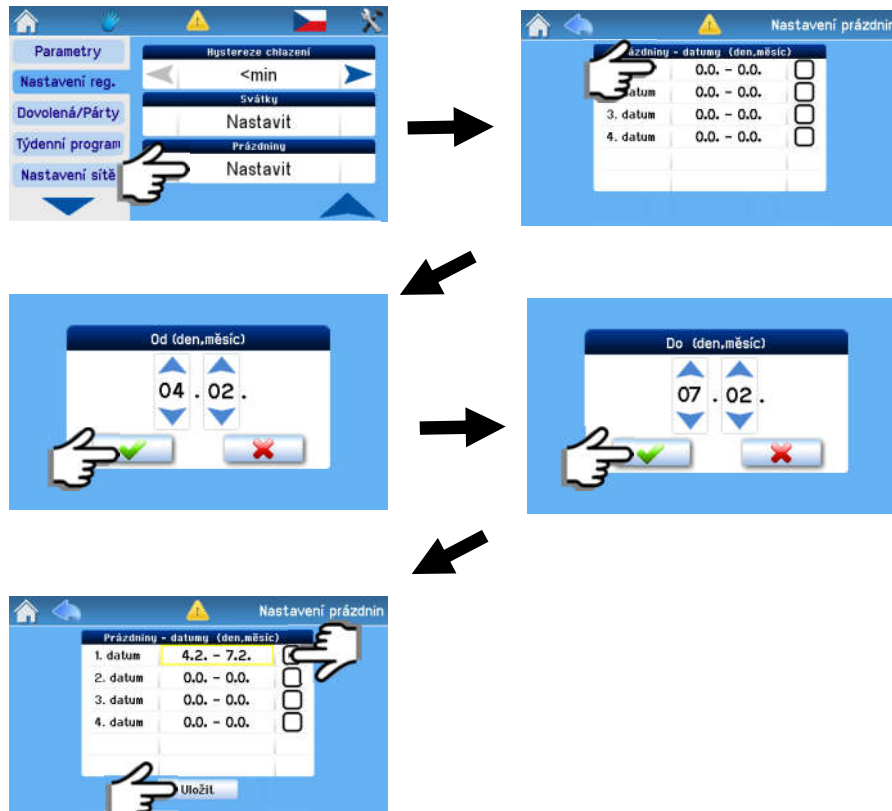


Figure 9

6.3 Holiday/Party


This is a mode set for a limited period of time during which the unit's operation is other than in regular modes, such as when the unit is normally run according to the weekly program and should be switched temporarily to economy mode for example for a week when there is no occupancy in the house.


When the parameters set for the Holiday / Party function have been stored, the unit is activated for operation according to these parameters; these cannot be subsequently modified or the unit's operation mode changed until the period set expires or the Holiday / Party function is deactivated manually (Deactivation button).


The settings below apply when the Holiday / Party mode has been activated.



Figure 10

Power: For Power settings see  5.1.

Mode: For Mode settings see  5.2.

Temperature: For Temperature settings see  5.3.

Zone: For Zone settings see  5.4.

Start time: The starting time of the mode may be delayed; the Holiday / Party mode starts according to the start time set.

End time: The Holiday / Party mode ends according to the end time set.

“Store / Activate” mode button: It serves for storing the parameters set. The mode is activated and deactivated according to the start and end times set. (After pressing, this button changes to the “Deactivate” button).

6.4 Weekly program setting

The weekly program is set separately for the heating and non-heating season.



Figure 11

6.4.1 Day copying

Settings may be copied between days as shown below:

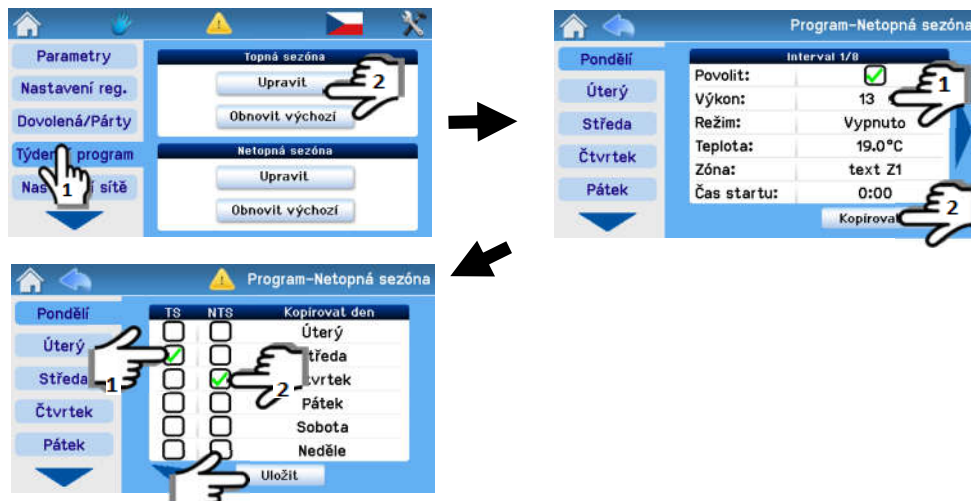





Figure 12

Example of copying: When copying, first check Wednesday in HS  and then Thursday in NHS , thereby copying all settings for Wednesday in HS to Thursday in NHS. Settings for each season provide eight intervals for each day of the week and separate settings for Bank holidays and School holidays. Each interval allows setting

all operating parameters of the AHU (see  5.1 – 5.4) and the start time of the interval.

Unless the first interval of a given day starts at 00:00, the unit continues to run with parameters set by the last interval of the previous day until the first interval start time.

Note

Use the arrows ◀ and ▶ to move between all eight intervals (days)

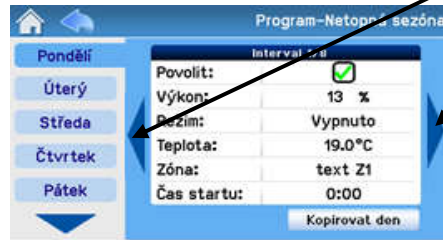


Figure 13

The weekly program allows copying and pasting the settings of a given day as follows:

- Into each day of the week
- Into selected days
- Into Bank holidays / School holidays
- Into Heating and Non-heating season days
-

6.5 Network setting



Figure 14

DHCP: When checked, the network is automatically set from the internet; if not checked, the network must be set manually

Note

The “Save” button records the values set and the control panel also immediately restarts with new values.

6.6 Texts

The "Texts" parameter is used for changing adjustable texts as required.

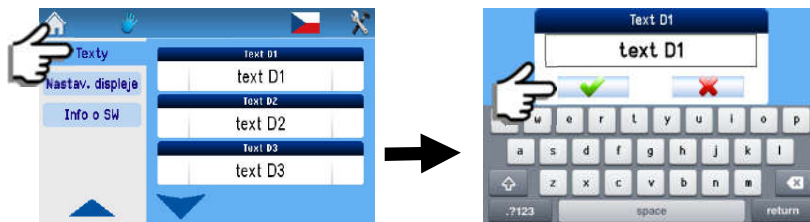


Figure 15

Note

The texts can be adjusted as required and are the same as those for setting from the web.



The respective text is shown in the "Mode" box when the unit switches to the mode according to this input.

D1 - D4, IN1, IN2, Zone 1, Zone 2, Zone 1+2, INk1 - INk4, T


6.7 Display settings

In this section you can set the basic parameters of the display:

Backlight setting

The display backlight is changed using the setting arrows; see Fig. 16  

Internet time sync

Time sync with the internet is done by checking this option as shown in  Fig. 16; the update is done immediately.

Time and date setting


The date and time are set by clicking as shown in Fig. 16 



Figure 16

- ! – In the event of a power failure and loading wrong time data, it is necessary to replace the internal battery on the board RD-int
- Type internal power battery CR 2032, placing the control module, board RD-int.
- The battery must be replaced by a service technician.

6.7.1 Time zone setting

The time zone setting according to the location of the unit is done by the setting arrows.

6.7.2 Daylight saving time (summer time)

An option to switch automatically between the summer and standard time.

6.8 SW information (unit type, configuration, specifications, version)

Information on the type of the unit, its manufacturing number and the version of the control software.



Figure 17

7 Filter replacement indication

In some units, the “Filter replacement” notification is also shown by the button for filter replacement confirmation (by pressing this button the date of subsequent filter replacement is saved).



Figure 18

8 Table of alarms and notifications


The messages shown in the table below provide information on irregular or unexpected events in the AHU system.

Table of alarms (yellow triangle) 

Message	Meaning	What to do?
Room temperature sensor	Failure of the room temperature sensor connected to the CP Touch controller.	Contact a service technician.
TEa temperature sensor	Communication breakdown or failure of the TEa temperature sensor.	Contact a service technician.
TEb temperature sensor	Communication breakdown or failure of the TEb temperature sensor.	Contact a service technician.
Heat recovery exchanger freezing	Frost depositing inside the heat recovery exchanger.	The air extracted from the building is likely to be very humid and the outside temperature is low. This condition usually lasts for several minutes and the unit goes back to normal operation after the heat recovery exchanger has been defrosted.
Temperature sensor downstream TA2 external heater	Communication breakdown or failure of the temperature sensor downstream the warm water or electric heater.	Contact a service technician.
1 st frost protection	Temperature downstream the heater is lower than 9 °C.	Check the warm water supply. AHU warm water supply opens.
2 nd frost protection	Temperature downstream the heater is lower than 7 °C.	Same as for 1 st frost protection. Contact a service technician.
STOP circuit active	The emergency stop contact is opened.	The stop contact has been activated by a fire or other safety system; check its status.
Temperature sensor TU1	Communication breakdown or failure of the TU1 fan temperature sensor in the unit.	Contact a service technician.
Temperature sensor TU2	Communication breakdown or failure of the TU2 fan temperature sensor in the unit.	Contact a service technician.

Set orientation (only applies to DUPLEX Flexi and DUPLEX ECH/ECVH)	The unit's orientation is not set, i.e. it is not determined which fan is the supply fan and which is the extraction fan.	This parameter blocks the operation of the unit and must be set in the service menu. Contact a service technician.
Heater setting	The heater type is not set (water or electrical).	This parameter blocks the operation of the unit and must be set in the service menu. Contact a service technician.
Manometer failure	If the unit is fitted with air flow rate gauges, one of them does not measure correctly or is faulty.	Contact a service technician.
Unbalanced flow rate	The flow rate through the unit is out of balance, the fans do not work as per settings.	Contact a service technician.
AHU overheat	One of the temperature sensors has detected a temperature higher than 77°C.	Disconnect the unit from power supply and, if there is no risk of overheating in the room (fire etc.), reconnect it.
Communication error	Breakdown of communication between the controller and AHU.	Check whether the cable between the unit and controller is not interrupted or contact a service technician.

Table 6

Table of notifications (blue triangle) 

Clogged filter	The filters in the unit are clogged, they are not working properly.	The filters in the unit must be replaced.
Heat recovery exchanger defrosting	Frost deposits in the heat recovery exchanger; the unit is not recovering the heat but defrosting.	The air extracted from the building is likely to be very humid and the outside temperature is low. This condition usually lasts for several minutes and the unit goes back to normal operation after the heat recovery exchanger has been defrosted.
Insufficient heating capacity of Heater 1	The heating capacity of the unit's heater is not sufficient.	Check the status of primary heating. The unit has switched to heating from its back-up source.
High tariff	The unit does not start the electric heater due to high electricity prices.	Power supply in a high tariff. Electrical heating is blocked.

Air flow rate too low	The air flow rate through the unit is not high enough.	Contact a service technician. Check the condition of filters.
“AI input“ failure	The unit has not accepted an external alarm signal.	Contact a service technician.
The unit is not operational	The unit has not been commissioned by a certified technician.	Contact a service technician.

Table 7

9 Other functions

9.1 Forgetful operator

After the ventilation period set has expired, the command on the D1-D4 input is deactivated. This function limits the duration of the AHU running.

9.2 Bypass dampers

Dampers for bypassing the heat recovery exchanger. DUPLEX heat recovery units are optionally fitted with a heat recovery exchanger bypass. The damper can be used e.g. for pre-cooling buildings by air from the outside at night in the summer or cooling in the transitional period. This saves costs of cooling.

The bypass damper is primarily controlled by setting the required temperature T_p and cannot be controlled manually.

9.3 Circulation damper

The circulation damper (also known as the mixing damper) is used for mixing outside air with extraction (circulation) air. The circulation damper can run in EKO mode which helps save the energy supplied for heating or cooling by mixing fresh air with circulation air.