valtronika®
control electronics

Control system for AHU

with EC motors, plate or rotary heat exchanger, electric or water heater

The control system is intended to be used for control of AHU with plate heat exchangers, supply and extract fans with EC motors, supply air electric heater, outside air damper, plate heat exchanger “Bypass” damper.

For the parameters settings measured data monitoring, remote control with the touch screen is connected to the control board. The remote control with the control board is connected using 4 wire cable and data transmitted RS485 MODBUS mode.

For economical and accurate AHU control 4 or 5 (depending on AHU type) temperature sensors are connected to the control board. Temperature sensors help quickly to reach the user's defined settings.

For the fan motors control, PCB has 0-10VDC control outputs. PCB ha an input for fan motors TACHO or NC feedback signal connection. With TACHO or NC system gets the fan fault signals. The electric heater is controlled by the PID algorithm and this allows to obtain good temperature control accuracy.

The control system has a heat exchanger frost protection function. If the exhaust air temperature drops below the set limit (factory default 1-10) and appears freezing risk of heat exchanger then first according to default settings pre-heaters turn on, then if exhaust temperature does not rise „Bypass” damper opens. If the exhaust temperature still does not rise above the set limit supply and exhaust fan speeds are altered to rise exhaust air temperature (supply air fan speed is gradually reduced to 30%, then exhaust air fan speed is increased gradually up to 100%).

The system controls heat exchanger and free-cooling modes.

The control system also can check the status of external signals such as: filter pollution from pressure switch, fire alarm for the fire alarm system.

Touch screen

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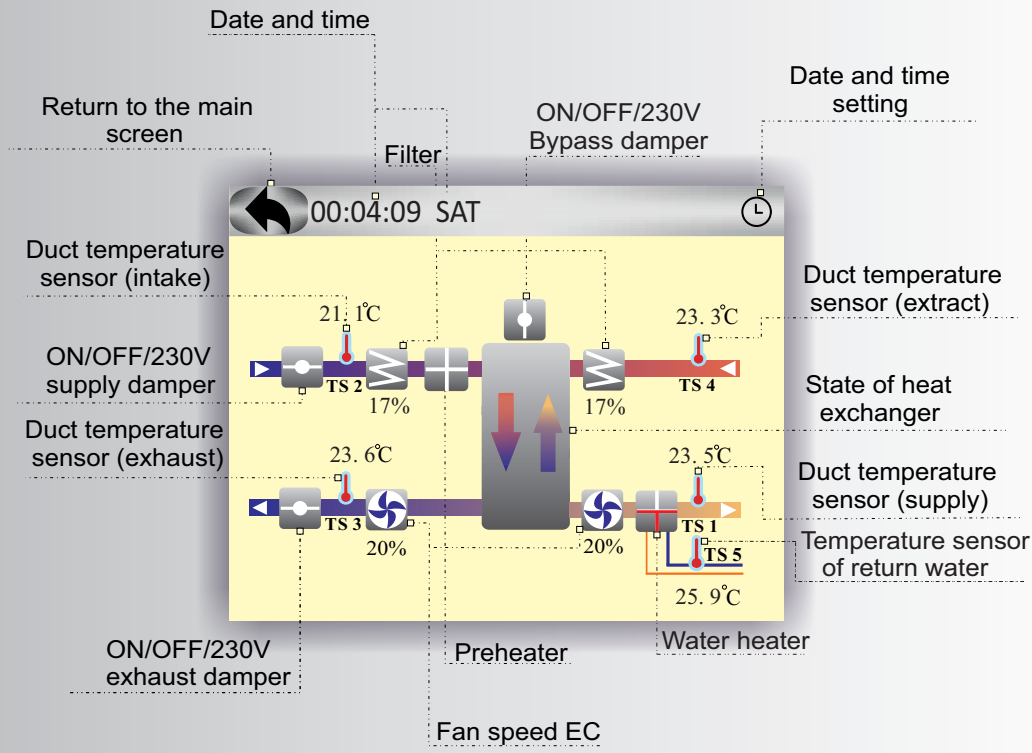
TECHNICAL DATA	
Power supply	230 VAC, 50 Hz
Remote control connection	RS485 MODBUS
Temperature setpoint range	5..30°C
Fans rotation speed setpoint range	0,20..100 %
Air damper actuator control	230 VAC
Electric heater and pre-heater control	total power 230 VAC up to 3.6 kW (16A) 0-10VDC output for heater
Fans control signals	0-10 VDC
Fans motors failure signal	pulse
Temperature sensors quantity and type	5 pcs, NTC10K
Filter pollution alarm digital input	voltage free, NO
Fire alarm digital input	voltage free, NO
Dimensions of PCB	90x160 mm.
Dimensions of remote controller	86x92x19 mm.

Touch screen



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