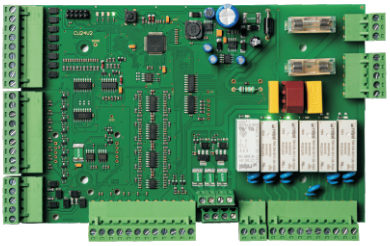
Controller for HVAC AHU **CU24V2**



Description

The **CU24V2** controller is a configurable controller for HVAC AHUs. The rich configuration options of the controller allows to create applications for AHU in almost all configurations. The controller comes complete with a 4.3" wall-mounted color touch panel **RMC30,** which allows you to create applications, parameterize the controller and manage the unit. The panel has a built-in very innovative and intelligent interface that allows the user to easily and clearly program the controller and navigate in the menu system. It has a unique solution consisting of a built-in guide, which during navigation in the menu, prompts the user how to use the buttons and explains the parameter designations, so there is no need to consult the instructions. When creating an application, the user only selects which functions he wants to use, while the controller sets the input/output for the task depending on the selected other functions, then the selection is displayed on the panel in real time. The I/O list of the built application along with the description and visualization is made available and can be consulted when connecting devices to the controller.

Basic functions

- **Temperature control**
  - Cascade temperature control with min/max limitation. or airflow adjustment
  - Water and electric heater control
  - Water cooler and chiller control
  - Heat pump control
  - Pre-heating function
  - Active water heater frost protection
  - Protection of electric heaters against overheating
  - Preliminary heater
  - Cascade connection of two heaters: I and II section
- **Fan control**
  - Supply and exhaust fan control
  - Frequency converter control
  - Engine alarm
  - Fan pressure switch
- **Control of heat recovery system**
  - Rotary, cross and glycol exchanger control
  - Mixing chamber control
  - Exchanger freezing protection
- **CO2 regulation**
- **Supply and exhaust pressure regulation**
- **Humidity control**
- **Real time clock with weekly work schedule**
- **Alarms**
  - Signaling and alarm management
  - Alarm history overview
- **BMS**
  - Possibility to connect to the BMS system via the RS485 serial link
  - MODBUS communication protocol

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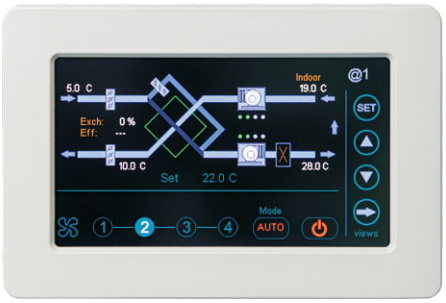
Inputs	Nr	Type
• Analog:	8	- 5 x resistive PT1000 - 3 x 0-10V
• Digital:	8	free potential contact

Outputs	Nr	Type
• Analog:	7	0-10V / 2mA
• PWM:	2	21VDC / 50mA
• Digital:	8	- 5 x free potential contact - 2 x 24VAC - 1 x 230VAC for pump control

Communication

• RS485 serial communication port:	2
• Protocol:	MODBUS

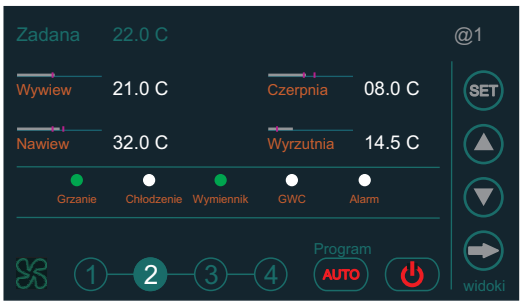
Control panel **RMC30**



Properties

The **RMC30** control panel supplied with the controller has a 4.3 "graphic display with an ergonomic graphic that clearly displays information about the operation of the system. The start page contains all the most important information about the air handling unit such as temperatures, operation of devices, running program, alarms and fan speed. Without the need to scroll the menu for information, you can directly change the setpoints only by touching the appropriate field. In addition to their absolute values, temperatures are contextually located on an additional scale relative to parameters associated with them. This allows easy interpretation of these values.

Panel home page

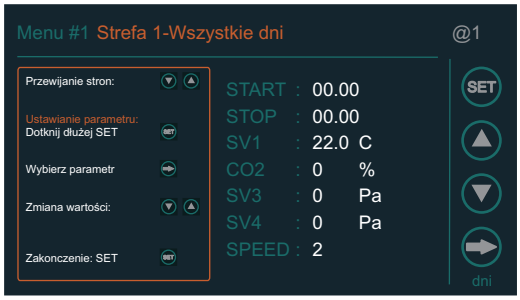


Home page with alarm notification

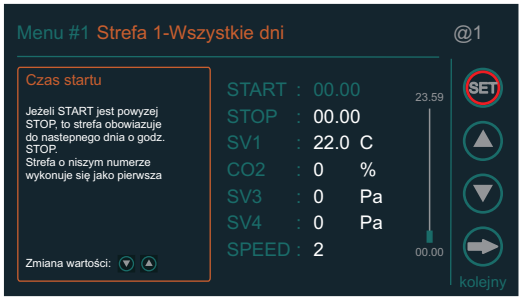
Navigation in Menu

Navigation in the menu is very intuitive and the unique, built-in guide tells the user how to use the buttons and explains the parameters, so there is no need to reach for the user manual. Creating applications is simple despite the advanced level of the controller, because the user has only to select the desired functions for the HVAC unit, then the controller by analyzing previously selected functions and available resources, defines the appropriate input / output witch is displayed by the panel.
Thanks to this mechanism, the user focuses only on selecting functions, without caring about resources. The list of inputs/outputs of the built application along with the description is made available along with the visualization of their values and states and can be consulted when connecting devices to the controller

Example of Menu page during scrolling



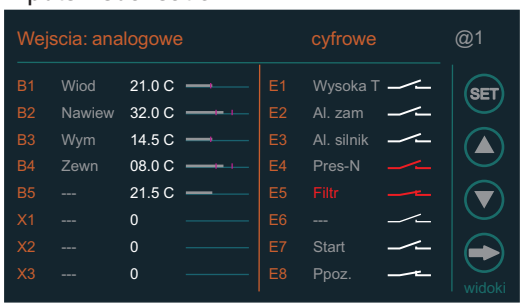
Menu page during parameter setting



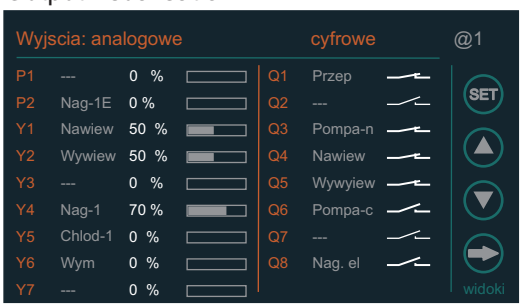
Visualisation

The RMC30 panel based on the built application displays a full list of inputs and outputs of the CU24V2 controller along with a description of their functions, values and states. Additionally, alarm states are signaled by red color of the description. For digital inputs, additionally to the graphic representation of the closed/open state, the active state is signaled in red, while the values of the analogue inputs are contextually shown on a scale relative to parameters associated with them. In this way, all information on a given input/output is simultaneously available.

Inputs visualisation



Output visualisation

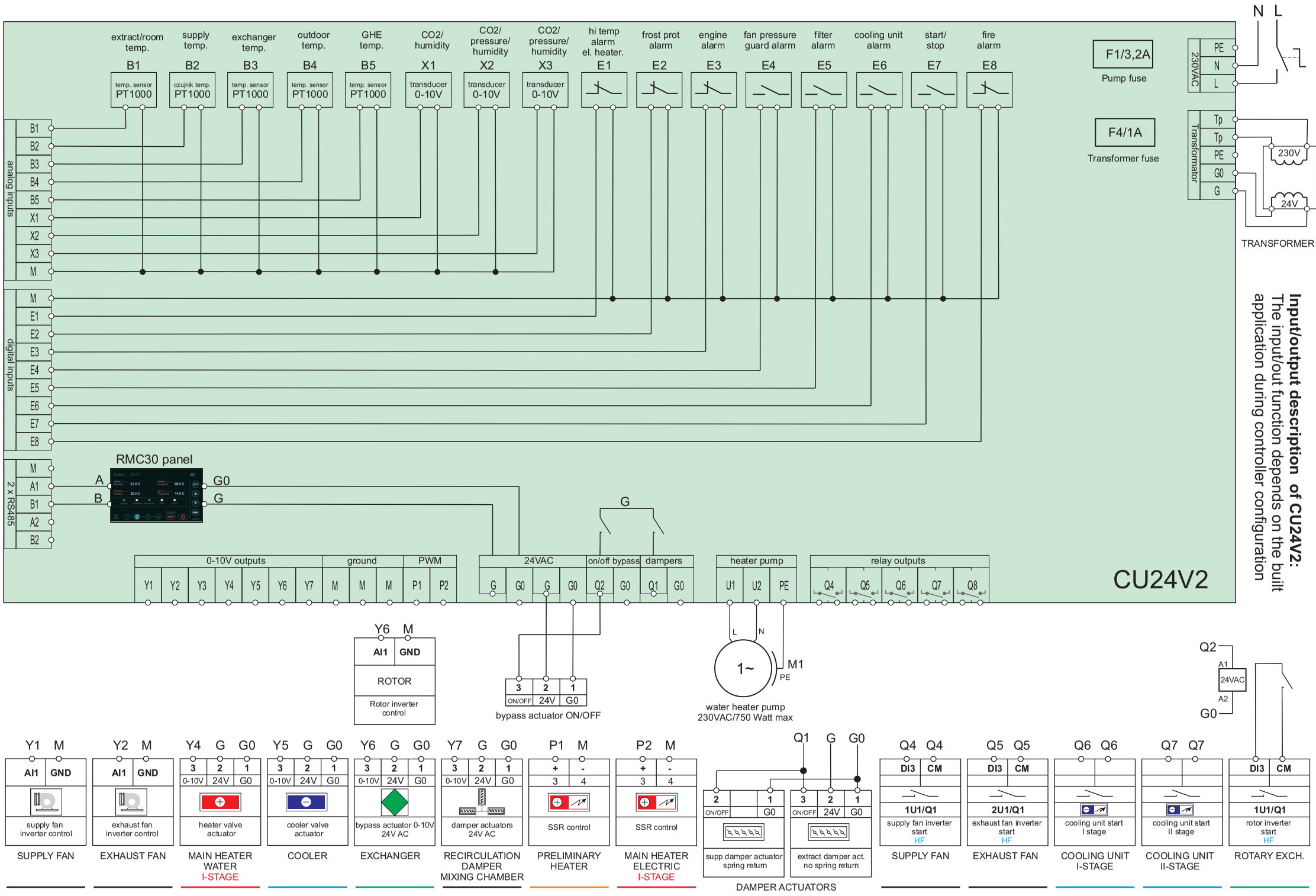


Alarms

The RMC30 panel allows you to view the list of current alarms and alarm history. The full list of controller alarms is available simultaneously on the screen and previous events that have been saved in the controller memory can be viewed by scrolling.

Data

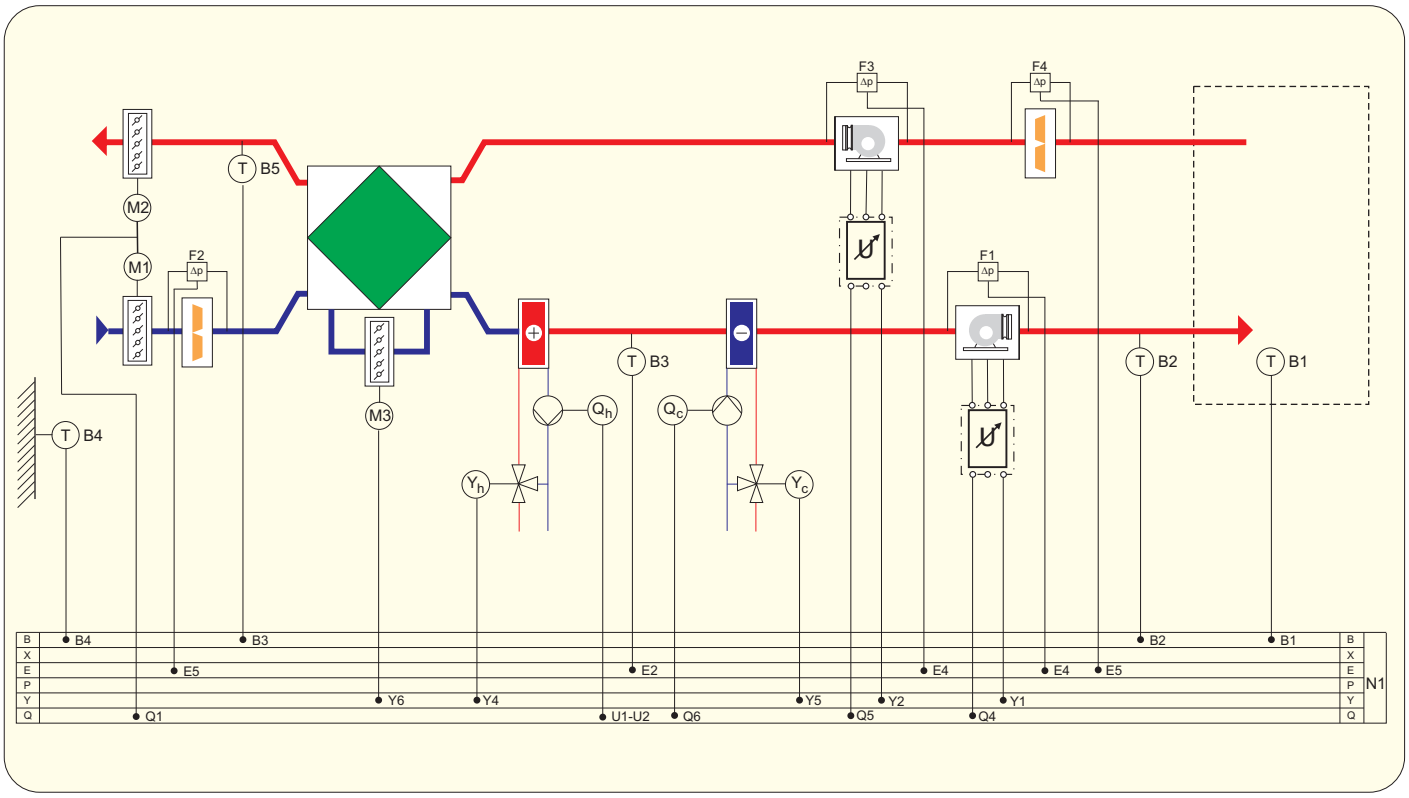
- Supply voltage: 24 VAC / DC
- LCD display: 4,3"; 480 x 272 px
- Dimensions: 125 x 84 x 27mm (lenght. x height. x depht.)
- Serial communication: RS485
- Communication protocol: MODBUS



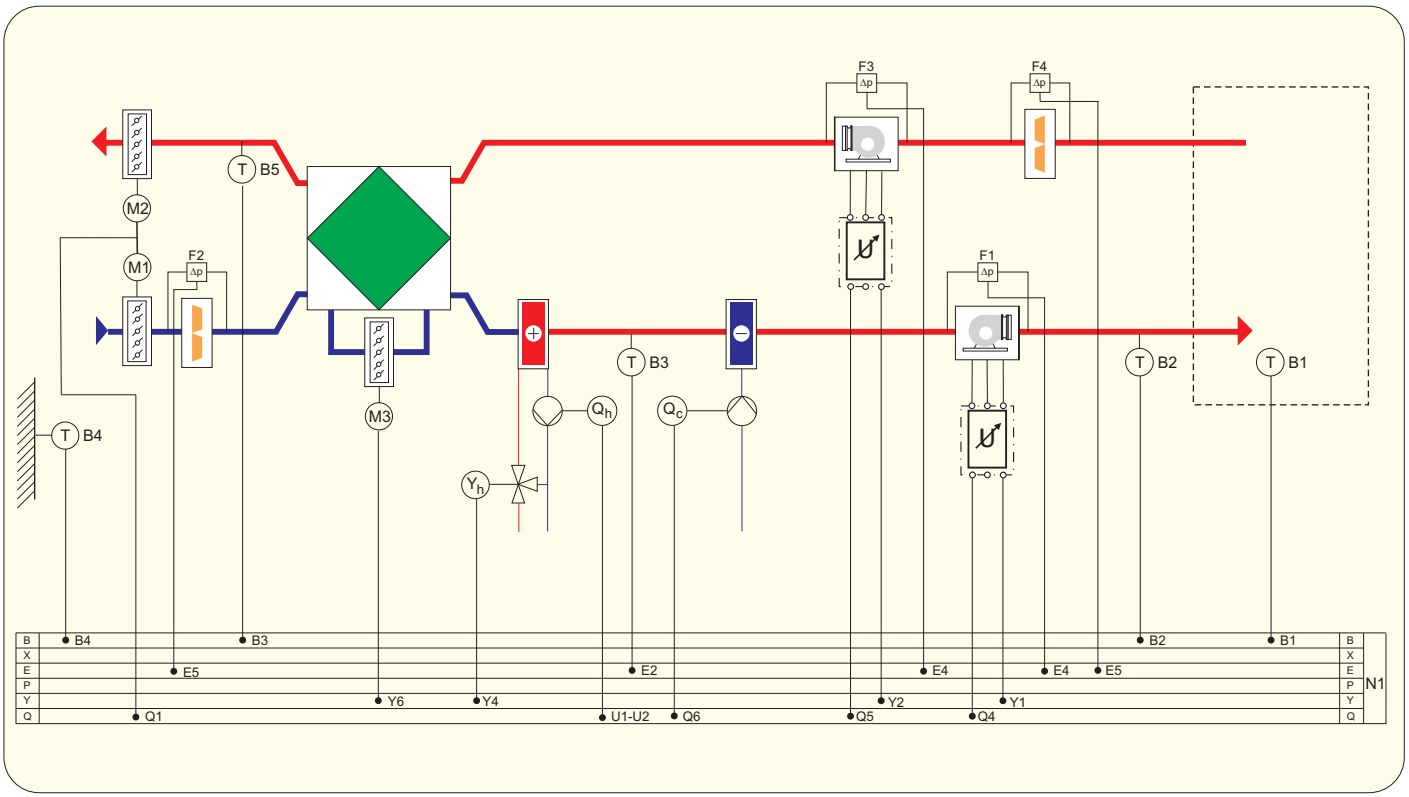
Input/output description of CU24V2:
The input/out function depends on the built application during controller configuration

Examples of aplications - 3-phase fans controlled by inverters

Inlet-Outlet AHU with exchanger , Water heater, Water cooler



Inlet-Outlet AHU with exchanger , Water heater, Cooling compressor



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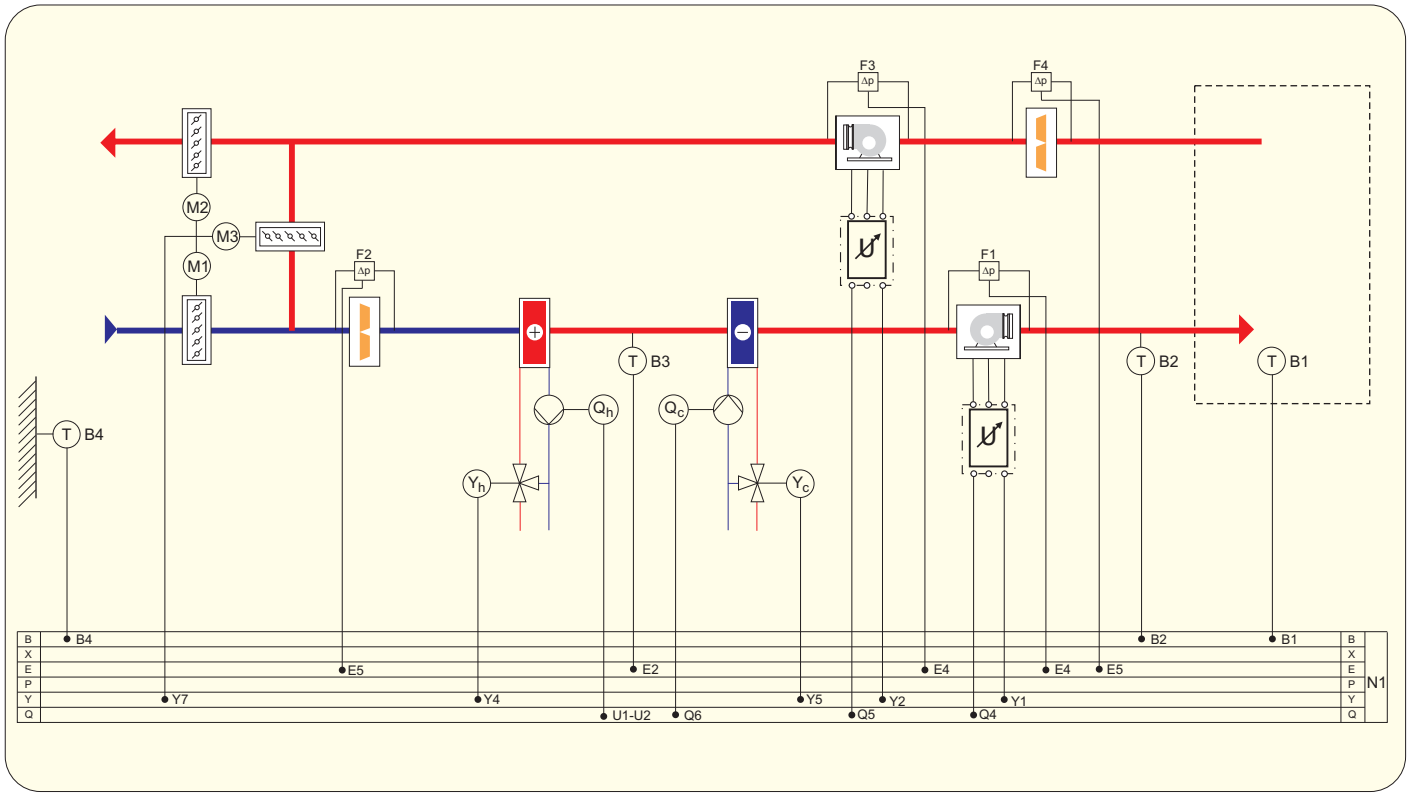
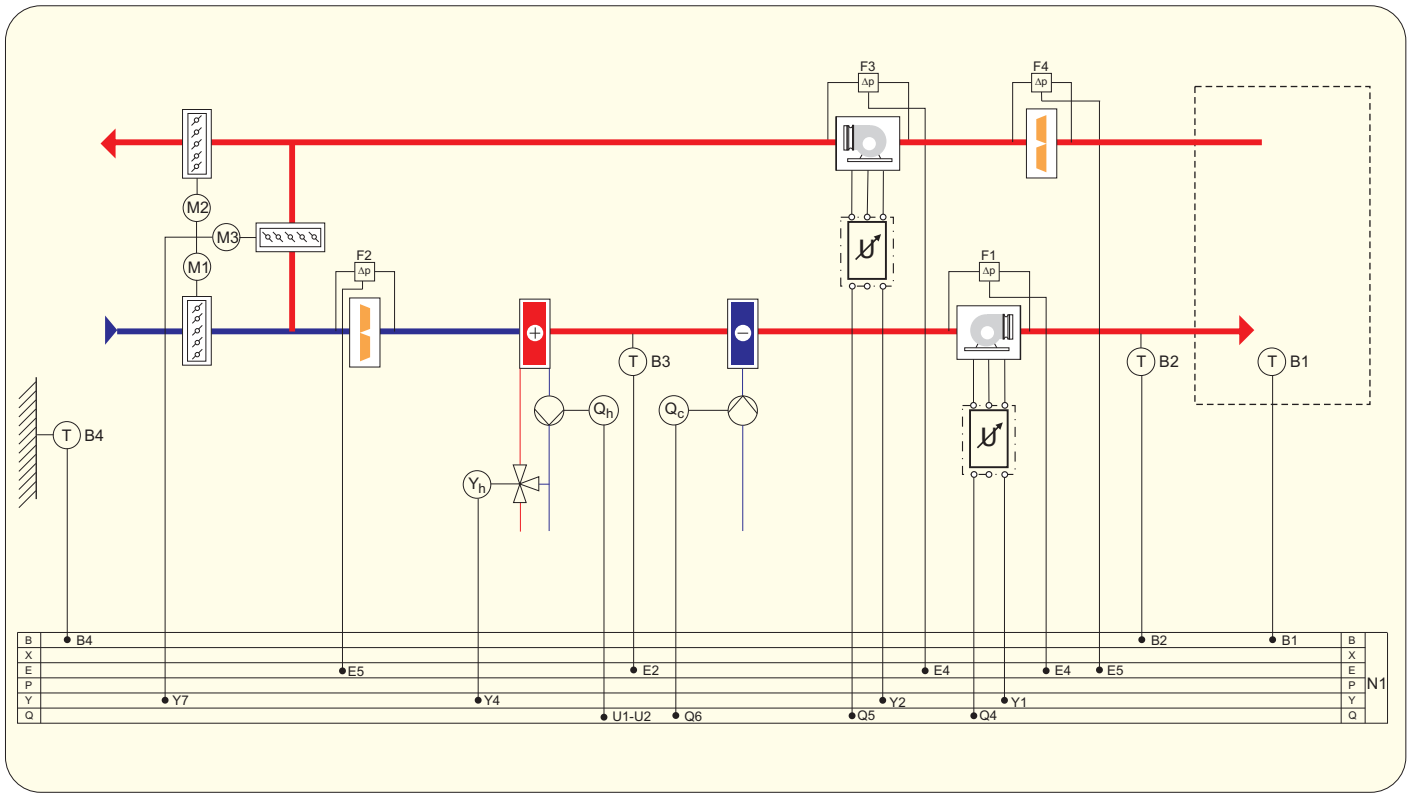
Examples of aplications - 3-phase fans controlled by inverters

Inlet-Outlet AHU with recirculation dampers , Water heater, Water cooler

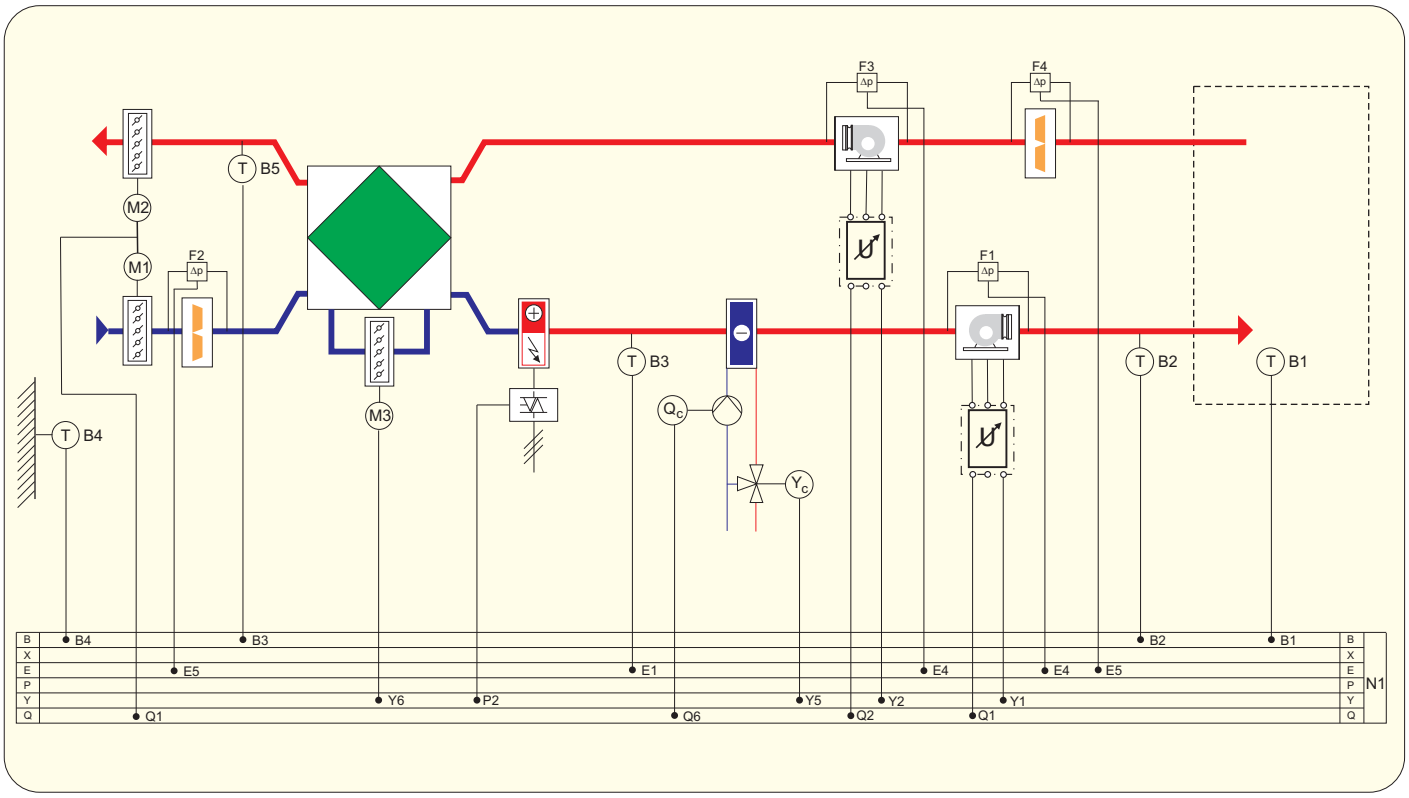


Inlet-Outlet AHU with recirculation dampers , Water heater, Cooling compressor

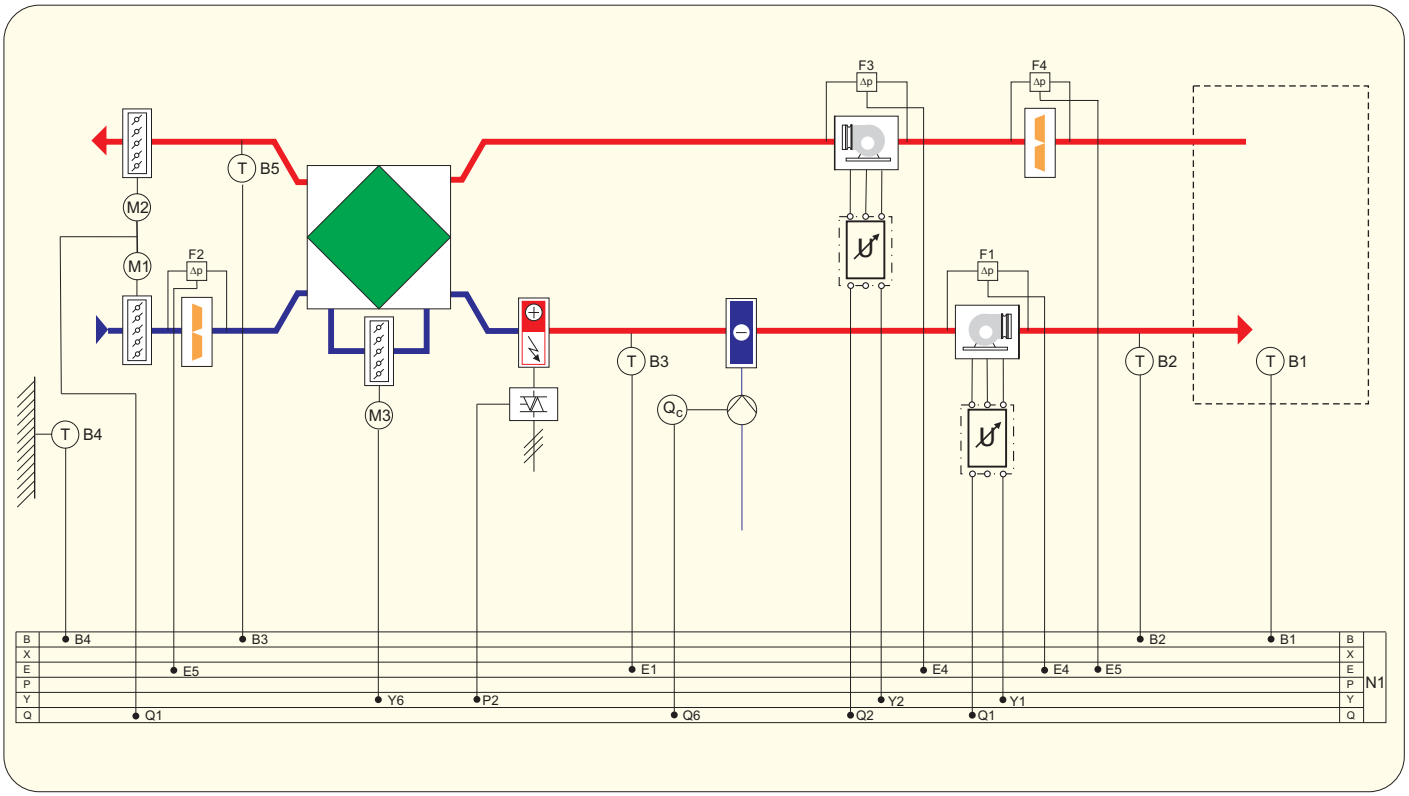


Examples of aplications - 3-phase fans controlled by inverters

Inlet-Outlet AHU with exchanger , Electric heater, Water cooler



Inlet-Outlet AHU with exchanger , Electric heater, Cooling compressor



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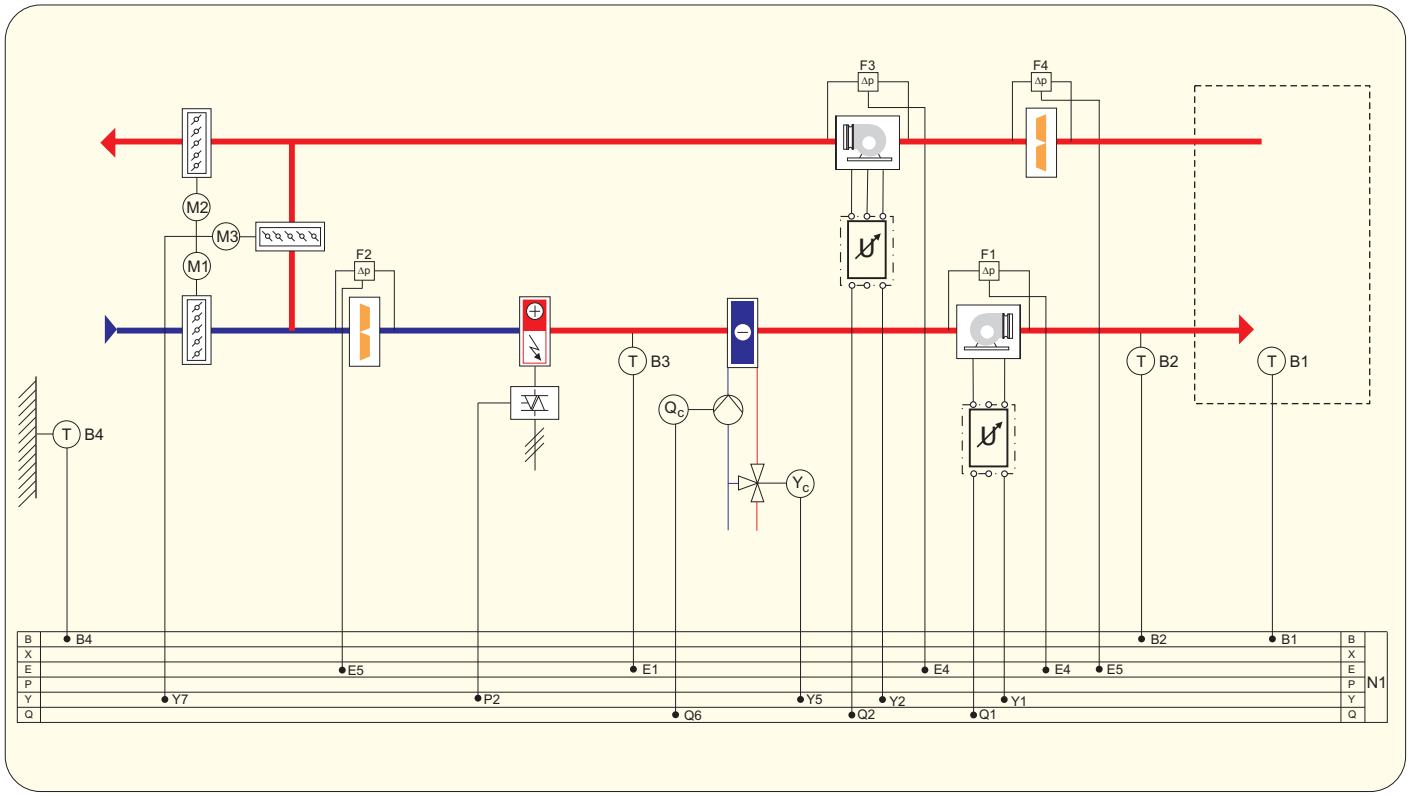
Examples of aplications - 3-phase fans controlled by inverters

Inlet-Outlet AHU with recirculation dampers , Electric heater, Water cooler



Inlet-Outlet AHU with recirculation dampers, Electric heater, Cooling compressor