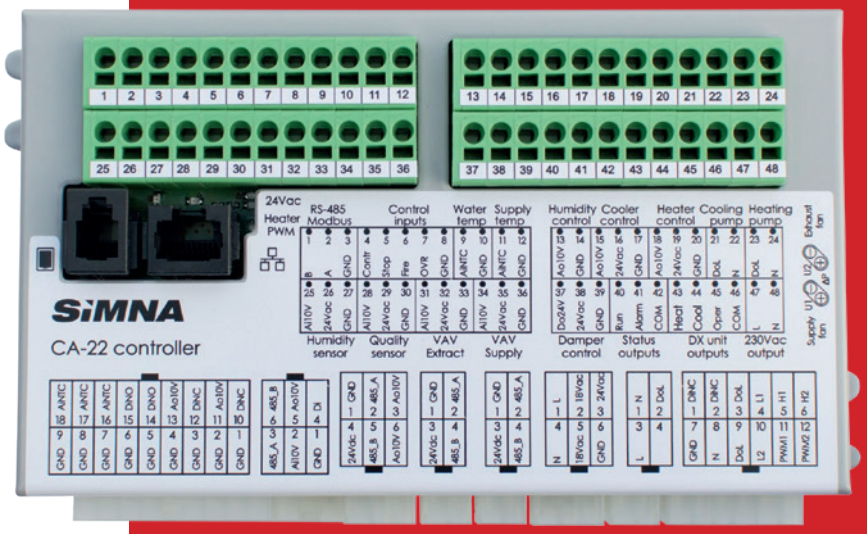
SiMNA



CA

Air handling unit controller

Simna CA is a controller designed for air handling units (AHU) and supports various system configurations. AHU can either be with or without heat exchanger (rotary, plate or liquid coupled), have a recirculation section and be single or double air flow with direct or constant air volume (CAV) control using integrated or external differential pressure sensors.

Up to 2 heaters and 2 coolers of different types simultaneous control with selectable priorities is possible and can be further expanded with extension modules. Controller have full humidity control – both humidifying and dehumidifying at the same time.

All the functionality is pre-programmed and ready to use, only simple configuration needed through integrated web server menu.

Energy saving functionality

- Recirculation and air flow intensity control by air quality or humidity sensor
- Variable air volume (VAV)
- Operation by air quality demand
- Summer night cooling
- Ventilation compensation by outdoor air temperature
- Circulation pumps control on demand
- Heat exchanger energy saving data (efficiencies, momentary power)
- Specific fan power (SFP) real-time data
- Energy counters in kWh for fans, heat exchanger and air heater

FEATURES

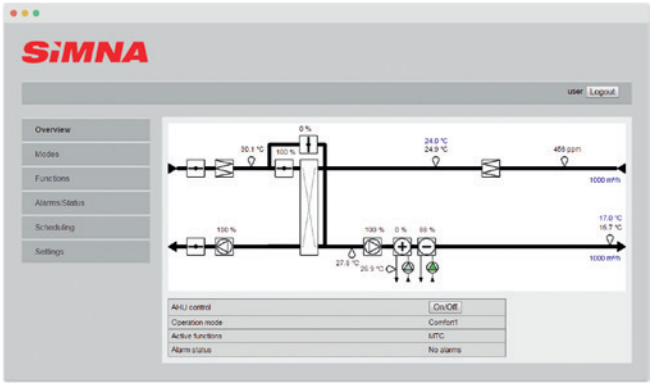
- Pre-programmed AHU controller
- Energy saving functionality
- Colour 3,5” touch panel PT
- Integrated web server
- BMS protocols
- Integrated pressure sensors
- I/O expansion with modules

Colour 3,5” touch panel PT-A

Control panel intuitive user interface provides full control of the air handling unit. Panel has slim design with only 12 mm depth. There are mounting holes on the back for over flush mounting box installation. Integrated magnets can be used to stick panel on magnetic surface.

Integrated web server

Simna CA integrated web server can be used to control and overview of all AHU parameters. On the main page sensor and actuator values are shown over detailed unit structure, which depends on configuration. Separate password protected user levels available for end-user, configuration and service maintenance.



Control panel and web server has more than 20 user interface languages to select from.

BMS protocols

Simna CA supports communication via Modbus RTU over RS-485 interface, Modbus TCP and BACnet/IP over Ethernet interface.

Integrated pressure sensors

There are different controller models depending on integrated differential pressure sensors used for CAV air flow control.

CA-00	Without differential pressure sensors
CA-10	1x 1034 Pa pressure sensor
CA-20	1x 2100 Pa pressure sensor
CA-50	1x 5500 Pa pressure sensor
CA-11	2 x 1034 Pa pressure sensors
CA-22	2 x 2100 Pa pressure sensors
CA-55	2 x 5500 Pa pressure sensors

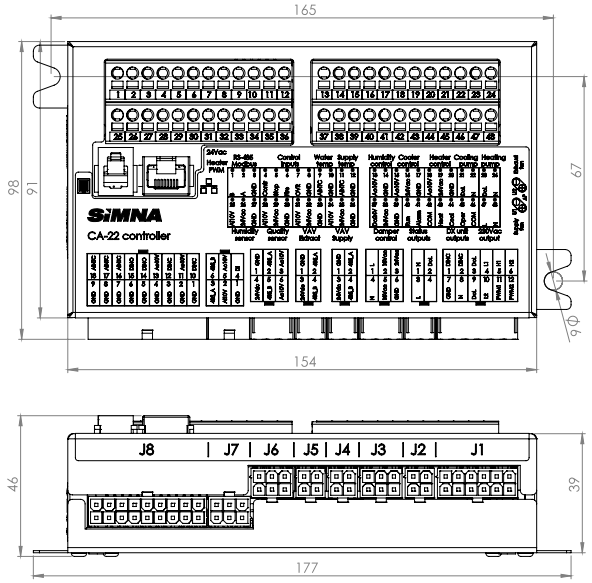
I/O expansion with modules

Controller functionality can be further expanded connecting additional EA-V and EA-P modules via digital communication line. Added functionality includes additional I/O lines for heater/cooler control, modulating air damper control for recirculation, precise air filter cogging measurement and more.

It is also a good solution to reduce cable lengths connecting local sensors and actuators directly to corresponding module in unit's section and have only one digital line to controller for whole section instead.

Expandable modules allow separate zone control operation – different temperature setting point for that zone will be maintained using local heater/cooler.

Dimensions

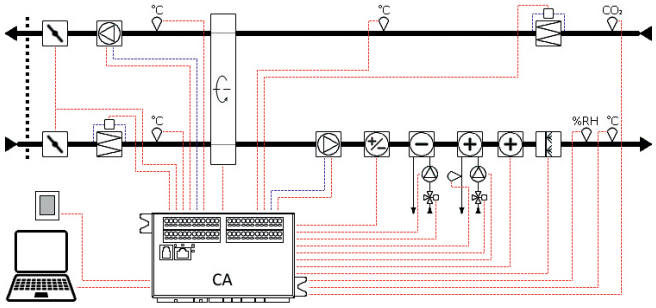


CE marking

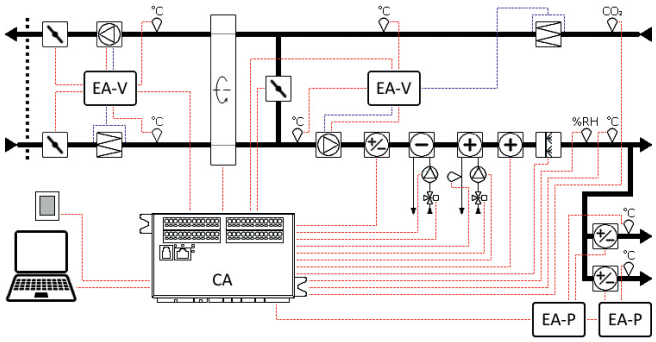
Simna CA controller conforms to the requirements of the EMC directive through standard EN 61326-1.

Application examples

BASIC FUNCTIONALITY



USING EXTENSION MODULES



Technical data

Controller supply voltage	18 Vac / 24 Vdc
External loads supply voltage	24 Vac
Power consumption	< 8W DC (excl. accessories)
Ambient operating temp.	-30..+50°C
Storage temperature	-30..+70°C
Ambient humidity	0..90%RH, non-condensing
Protection class	IP20
Dimensions	177 x 98 x 46 mm
Weight	500 g
External loads protection	Auto-resettable 1A fuse
Indication LED	Control panel, Ethernet, power, triac

Inputs/outputs

Connectors (External accessories)	2.5 mm² spring terminals
Connectors (AHU internal)	4.2 mm VAL-U-LOK connectors
Analog inputs	4, 0..10V
Temperature inputs	5, NTC 10k
Differential pressure inputs	2*, 3mm 0..5500 Pa
Digital inputs	9, internal pull-up
Analog outputs	9, 0..10V
Digital relay outputs	11, 230 Vac 2A
PWM triac outputs	2, opto-isolated for 1 or 3 phase electric heater
Control panel	1, RJ45 4P4C
Ethernet	1, RJ45 8P8C

* Depends on controller model