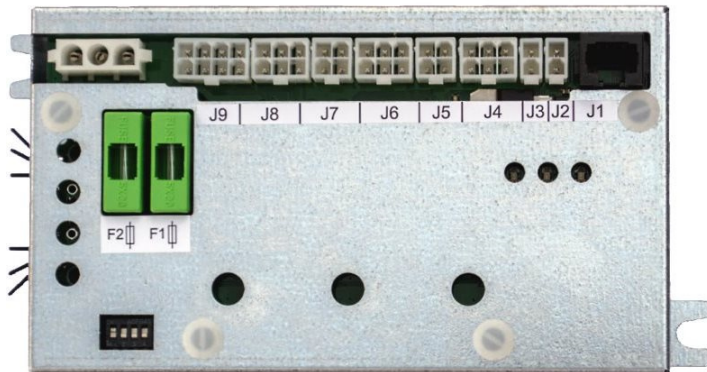


## Air handling unit (AHU) controller

### CB



#### Features:

- Pre-programmed controller
- Energy saving functionality
- Color 3,5" touch control panel
- Fans and dampers control
- Integrated electric heater control
- Water heater with changeover
- BMS control functionality

#### Pre-programmed controller

Simna CB is a controller designed for air handling units (AHU) control. AHU can be with supply only or supply and extract air flow. Rotary or plate heat exchanger control with failure detection and defrosting function is available. Optional reed switch is used for rotary heat exchanger rotating failure check. Plate heat exchanger defrosting function use thermal switch placed on the exhaust air flow after heat exchanger, where the ice can form during cold season. Electric heater can be controlled without any external power electronic components using integrated circuit. Water heater control is available with 0..10V output signal, which have cooling control option using changeover digital input. All the functionality is pre-programmed and ready to use. Switches determine controller configuration – heat exchanger type, heat exchanger functionality and air heater type.

#### Energy saving functionality

- Air flows set by operation schedule
- Temperature setting point sliding for determined period of day time
- Override function for operation by external signal or air quality switch
- Fans power off relay for lowest possible standby power usage
- Smart service time warning indication depending on the air flows

#### Color 3,5" touch control panel

Control panel intuitive user interface provides full control of the air handling unit. Panel has slim design with only 12mm 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.



#### Fans and dampers control

Simna CB controls two fans with 20..100% (or stopped) flow level settings independently for supply and extract. Separate 0..10V signals are provided for fans control. Air dampers actuator control is provided with internal relay, sourcing 230Vac power supply. Fans power supply can be controlled with the same relay, improving standby power efficiency.

#### Integrated electric heater control

Fully integrated electric heater circuit is provided for up to 1.2kW one phase heater control without using any external electronics components. 0..10V output can be used for more powerful heater control. Two-stage overheating protection functionality is available – first is for automatic operation recovery restarting heater when it is safe, second will trigger alarm message with manual reset.

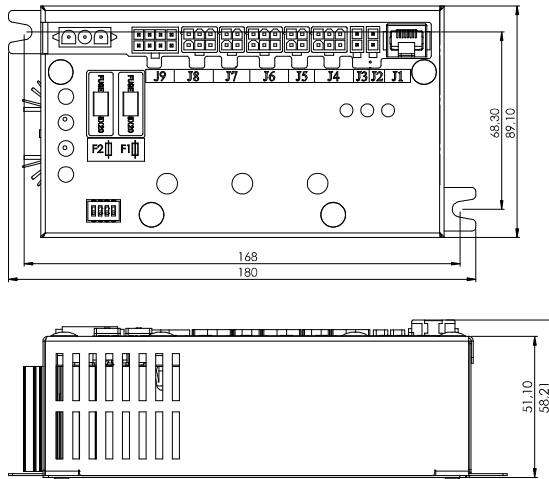
### Water heater with changeover

Water heater capacity is controlled using 0..10V output for modulating valve actuator. Return water temperature sensor and optional capillary thermostat are used for water coil freeze protection during cold season. Circulating pump control is also provided. Water heater changeover coil can be used with Simna CB. Having cold water source during warm season, operation of heater output is reversed for cooling mode using digital input.

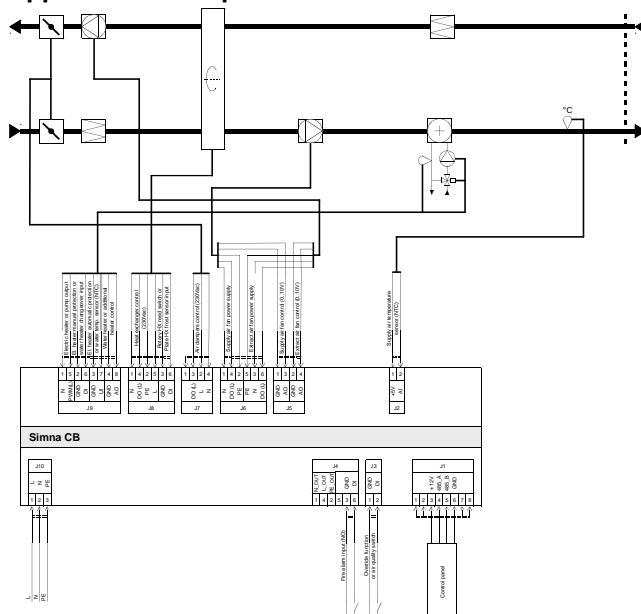
### BMS control functionality

Simna CB supports communication via Modbus RTU over RS-485 interface.

### Dimensions



### Application example



### Technical data

Supply voltage	230Vac
Power consumption	<3VA
Ambient operating temp.	-30..+40°C
Storage temperature	-30..+70°C
Ambient humidity	0..90%RH, non-condensing
Protection class	IP20
Dimensions	180x89x58 mm
Weight	545 g
Controller fuse protection	4A (with fans and accessories)
Electric heater fuse	6A
Indication LED	Heat exchanger, electric heater, RS-485 activity (Control panel or BMS)

### Inputs/Outputs

Power supply connector	3pin MATE-N-LOK
Signal connectors	4.2mm VAL-U-LOK
Control panel or BMS connector	RJ45 8P8C
Supply air temp. input	NTC 10k
Return water temp. input	NTC 10k
Override function input	Digital in, internal pull-up
Reed or thermal switch input	Digital in, internal pull-up
Electric heater manual reset thermal switch input	Digital in, internal pull-up
Electric heater automatic reset thermal switch or return water temp. input	Universal (NTC 10k for temperature)
Fans control outputs	2, 0..10V
Fans/dampers power relay	2A
Heat exchanger control output	Triac controlled 230Vac, up to 1A
Electric heater control output	Triac controlled 230Vac, up to 6A or 1.2kW load
Heater/cooler control output	1, 0..10V