



## ecoVENT

A controller with a balanced ventilation function to control a mechanical ventilation unit with heat recovery.

ecoVENT MIDI

ecoVENT MINI



ecoCLOUD



The ecoVENT MIDI and MINI controller controls the mechanical ventilation unit with a cross-flow (counter-current) or rotary heat exchanger. Performs the function of heat recovery from ventilated rooms based on readings from sensors and has the function of balanced ventilation.

**Application:** medium and large air handling units, burglar alarm system.

**Recommended places of use:** residential houses, offices. Module designed to be built-in.

**Sensors:** CO<sub>2</sub>, humidity, built-in two differential pressure sensors.

**Communication:** possibility to operate external differential pressure transmitter (ecoPRESS EX1), humidity and CO<sub>2</sub> using Modbus.

### Inputs and outputs

#### ecoVENT MIDI

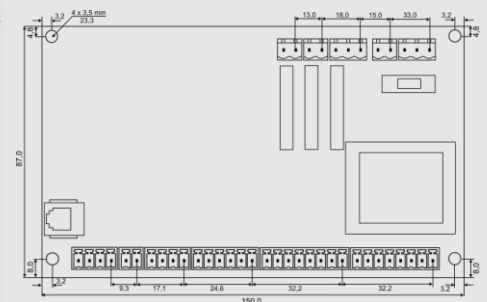
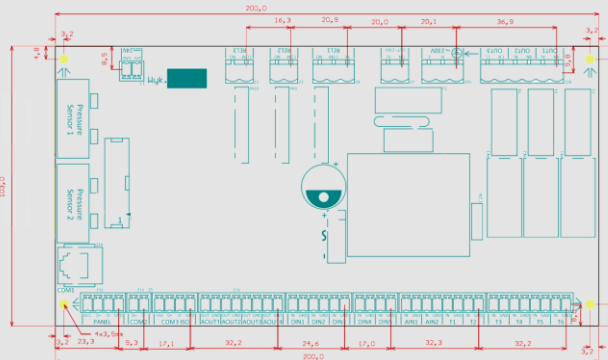
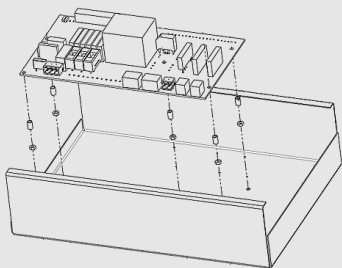
- 6 relay outputs
- 2 outputs 0-10 VDC
- 2 outputs PWM
- 2 outputs 0-10 VDC/PWM
- 5 digital inputs
- 6 measuring inputs
- 230 VAC and 24 VDC outputs
- 3 communication ports (RS485/Modbus)
- 2 differential pressure sensors
- support for external CO<sub>2</sub> sensors, air quality and humidity.

#### ecoVENT MINI

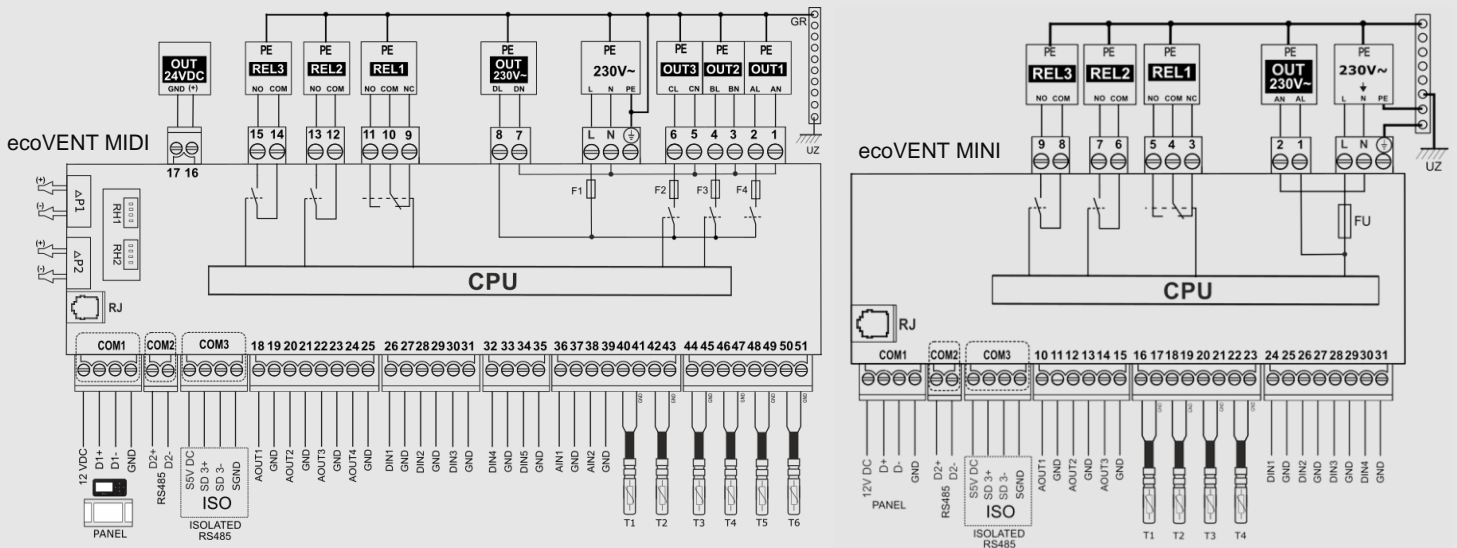
- 3 relay outputs
- 3 outputs 0-10 VDC
- 4 digital inputs
- 4 measuring inputs
- 230 VAC output
- 3 communication ports (RS485/Modbus).

### Technical data and module installation

- Power supply: 230 VAC, 50 Hz.
- Current consumption: 0.04 A.
- Ambient temperature: 0-40°C.
- Measurement range of differential pressure sensor/accuracy of internal differential pressure sensor: ±500 Pa /±3% of measuring (ecoVENT MIDI).
- Protection class: suitable to build-into class 1 devices.
- Graphic display: graphic 128x64 pix. or 480x272 pix. with a touch screen.
- To be built into Class I devices.
- MIDI module dimensions: 200x104x50 mm (including 9 mm spacers).
- MINI module dimensions: 150x87x49 mm (including 14 mm spacers).



## Electrical scheme



The controller allows any configuration of outputs depending on the needs of used ventilation system. Under the scheme is described sample outputs configuration.

### ecoVENT MIDI

#### Analog outputs (NTC 10K):

- T1 – temp. sensor behind exchanger (optional)
- T2 - supply temp. sensor (required)
- T3 – extraction temp. sensor (required)
- T4 – intake temp. sensor (required)
- T5 – GHE temp. sensor (required)
- T6 – exhaust temp. sensor (required)

#### Analog outputs (0-10 VDC):

- AOUT1 – analog humidity sensor,
- AOUT2 – empty,

#### Digital inputs (digital):

- DIN1 (IN1) – fans adjustment change – hood mode, stage 1 (Normally open),
- DIN2 (IN2) – fans adjustment change – hood mode, stage 2 (Normally open),
- DIN3 – signal input from FAS (Normally closed)
- DIN4 – signal input from alarm system (Normally open)
- DIN5 – heaters thermostats (Normally closed)

#### Analog outputs (0 – 10 VDC):

- AOUT1 – air supply fan
- AOUT2 – exhaust fan

#### Analog outputs (0 – 10 VDC or PWM\*):

- AOUT3 – secondary heater
- AOUT4 – water or freon cooler

### ecoVENT MINI

#### Analog outputs (NTC 10 K):

- T1 - supply temp. sensor (required)
- T2 – exhaust temp. sensor (required)
- T3 – intake temp. sensor (required)
- T4 – extraction temp. sensor (required)

#### Analog outputs (0-10 V):

- AOUT1 – supply fan
- AOUT2 – exhaust fan
- AOUT3 – secondary heater

#### Digital inputs:

- DIN1 – heaters thermostats (normally open)
- DIN2 – fans expenditure change – hood mode circuit 1 (normally open)
- DIN3 – signal from alarm central (normally open)
- DIN4 – signal from FAS (normally closed)

#### 230 VAC outputs:

- OUT – intermittent output with mains voltage

#### Relay outputs 230 VAC:

- OUT1 - air supply fan
- OUT2 – exhaust fan
- OUT3 – GHE throttle actuator

#### Relay outputs (no-potential):

- REL1 – primary heater
- REL2 – secondary heater
- REL3 – bypass throttle actuator

#### Transmission:

- COM1 (PANEL) – control panel (supply power 12 VDC)
- COM2 – transmission socket for additional expansion modules (RS485)
- COM3 (ISOLATED) – isolated RS485 port and SGDN (external communication port)
- ΔP1, ΔP2 – differential pressure sensors ecoPRESS IN1 (optional)
- CPU – control
- L N – mains power 230 VAC
- PE – peripheral devices grounding
- FU – mains fuse
- GR – grounding
- RH1, RH2 - humidity sensor.

#### Relay outputs (non-potential):

- REL1 – primary heater
- REL2 – bypass throttle actuator
- REL3 – GHE throttle actuator

#### Transmission:

- COM1 – control panel (supply power 12 VDC)
- COM2 - transmission socket for additional expansion modules (RS485)
- ISOLATED (ISO) – isolated RS485 port and SGDN (port for external communication)
- CPU – control
- L, N, PE – mains power 230 VAC
- FU – mains fuse
- UZ – grounding
- GR – ground terminal.