

# INSTALLATION AND MAINTENANCE MANUAL



**Manufacturing Nr: 226518** →

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# EVENTYS™ 508 to 595

## COMPENSATION UNIT

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## SAFETY AND ENVIRONMENT INSTRUCTIONS

- Installation and maintenance of the unit must be performed by qualified staff according to local and current standards and regulations.
- Use Personal Protective Equipment to avoid damages related to electrical, mechanical (injuries from contact with metal sheets, sharp edges) and acoustics risks.
- Do not use the unit for any purpose other than that for which it is designed. This appliance may only be used for conveying air free of hazardous or construction dust.
- Move the equipment as indicated in the handling chapter.
- Carry out grounding in accordance with current standards. Never start-up a device that is not grounded (protective earth).
- Before any intervention, ensure that the device is turned off and wait for the complete shutdown of the moving components of the ventilation unit before opening the doors.
- During operation, inspection panels, doors and hatches must always be mounted and closed.
- The device is started or stopped only via the proximity switch.
- Safety and control equipment must not be removed, short-circuited or deactivated.
- During interventions, be vigilant to the temperature that certain components can reach (water battery or electrical resistance ...).
- The installation must comply with fire safety regulations.
- Any waste generation must be treated in accordance with the regulations in force.
- It is the responsibility of the installer of the equipment to ensure compliance with the regulations concerning noise emissions inside the building and to adapt if necessary, the conditions of installation.
- We accept no liability for damages resulting from misuse of the equipment, unauthorized repair or modification or non-compliance with this notice.

### REMINDER AND DEFINITION OF PICTOGRAMS USED

	<p>Danger and warning:</p> <ul style="list-style-type: none"> <li>o Operation or situation that may present a danger</li> <li>o Warning about instructions to follow</li> </ul>
	<p>Reading the documentation that accompanies the product is mandatory.</p>

## I. TECHNICAL SPECIFICATIONS

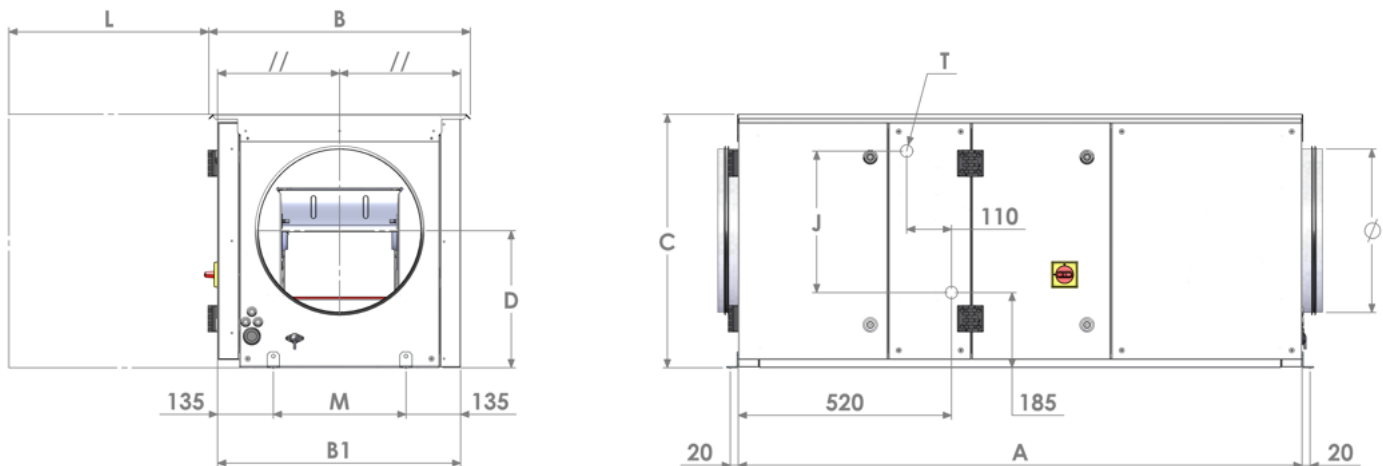
### I.1. Electrical characteristics

	EVENTYS	Power Supply (V / Ph / Hz)	Current protection (A)	Electric Heater Input (kW)	Motor Input (W)	Motor Current (A)	Operating Temp. (°C/°C)	Motor IP/Class	Thermal Protection*
HOT WATER COIL (BC)	508 BC ECO	230/1/50	1,4	-	169	1,4	-25 / 60	IP54 / B	PTI
	520 BC ECO	230/1/50	4,3	-	1070	4,3	-25 / 40	IP44 / F	PTI
	530 BC ECO	230/1/50	4,5	-	1040	4,5	-25 / 40	IP44 / F	PTI
	540 BC ECO	230/1/50	4,4	-	1030	4,4	-20 / 40	IP44 / F	PTI
	550 BC ECO	230/1/50	8	-	1790	8	-20 / 40	IP44 / F	PTI
	585 BC ECO	230/1/50	10	-	2310	10	-20 / 40	IP44 / F	PTI
	595 BC ECO	230/1/50	9	-	2110	9	-20 / 40	IP44 / F	PTI
ELECTRIC HEATER (BE)	508 BE ECO	230/1/50	17,7	3,75	169	1,4	-25 / 60	IP54 / B	PTI
	520 BE ECO	400/3+N/50	20,5	11,25	1070	4,3	-25 / 40	IP44 / F	PTI
	530 BE ECO	400/3+N/50	34,8	21	1040	4,5	-25 / 40	IP44 / F	PTI
	540 BE ECO	400/3+N/50	43,4	27	1030	4,4	-20 / 40	IP44 / F	PTI

\* PTI: Integrated Thermal Protection

### I.2. Weights and dimensional data

Provide a free space in front of the access face at least equivalent to the width of the unit to enable maintenance operations and access to the various removable parts.



Model	A mm	B mm	B1 mm	C mm	D mm	∅ mm	J mm	L mm	M mm	T inch	Weight kg
EVENTYS 508™	1320	535	495	520	285	250	240	490	225	1/2"	85
EVENTYS 520™	1320	535	495	520	285	315	240	490	225	1/2"	95
EVENTYS 530™	1380	635	595	620	335	400	340	590	325	1/2"	120
EVENTYS 540™	1440	735	695	720	385	450	440	690	425	3/4"	150
EVENTYS 550™	1505	835	795	820	425	500	540	790	525	3/4"	175
EVENTYS 585™	1595	1060	1020	920	475	630	640	1015	750	1"	225
EVENTYS 595™	1665	1260	1220	1020	525	800	740	1215	950	1"	275

## II. GENERAL

EVENTYS is a range of high-efficiency performances and low-noise units for compensation or fresh air heating of tertiary premises and professional kitchens requiring flow rates from 100 to 9500m<sup>3</sup>/h.

It is equipped as standard with an isolator switch, a **RS485-TCP/IP MODBUS** and **BACNET** communicating controller (choice of the protocol enabled directly on site) with integrated display, a speed-controlled EC fan and a 50mm width rockwool insulation. It also includes either a hot water coil (EVENTYS BC) or an electric heater (EVENTYS BC) as standard.

EVENTYS is delivered as **PLUG&PLAY - SET&FORGET**: the controller is pre-set and set up with options ordered as standard to facilitate and minimise commissioning time.

## III. PACKAGING AND PACKAGES

The EVENTYS units are delivered on wood pallet and wrapped with a protective film. Sensitive parts are protected by cardboard or bubble wrap.

## IV. UPON RECEIPT OF THE MATERIAL

### IV.1. Quality checks

On receipt of the material, check the condition of the packaging and the material, as well as the number of packages. In case of damage, make detailed comments on the carrier's delivery note and inform your supplier immediately.

### IV.2. Unpacking

When unpacking the equipment, check the following points:

- Presence of total number of packages
- Presence of the expected accessories (electrical equipment, sleeves, (external) controls, etc.)

Remove the protective film from the sheets.

After unpacking the material, the waste must be disposed of according to local regulations and standards.

No packaging should be released into the environment.

### IV.3. Storage

As long as the unit is not installed and connected to the air distribution network, it must be stored in a sheltered, dry place at a temperature between -20 °C and +40 °C as the packaging is not suitable for storage in bad weather.

## V. END OF SERVICE LIFE

Through its membership of the eco-organisation ECOLOGIC, CALADAIR meets the financing obligations for the collection, removal and treatment of waste electrical and electronic equipment.

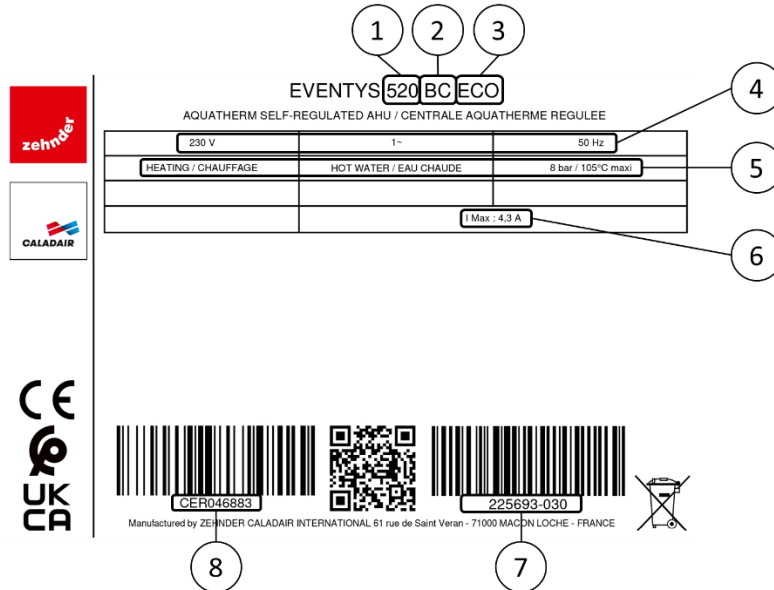
When installing or uninstalling this equipment, the user or installer can contact the Ecologic company, which will offer a collection solution to dispose of the obsolete product in a suitable way.

Telephone: +33 (0)1 30 57 79 09

Internet: [www.e-dechet.com](http://www.e-dechet.com)

## VI. IDENTIFICATION AND LABELLING

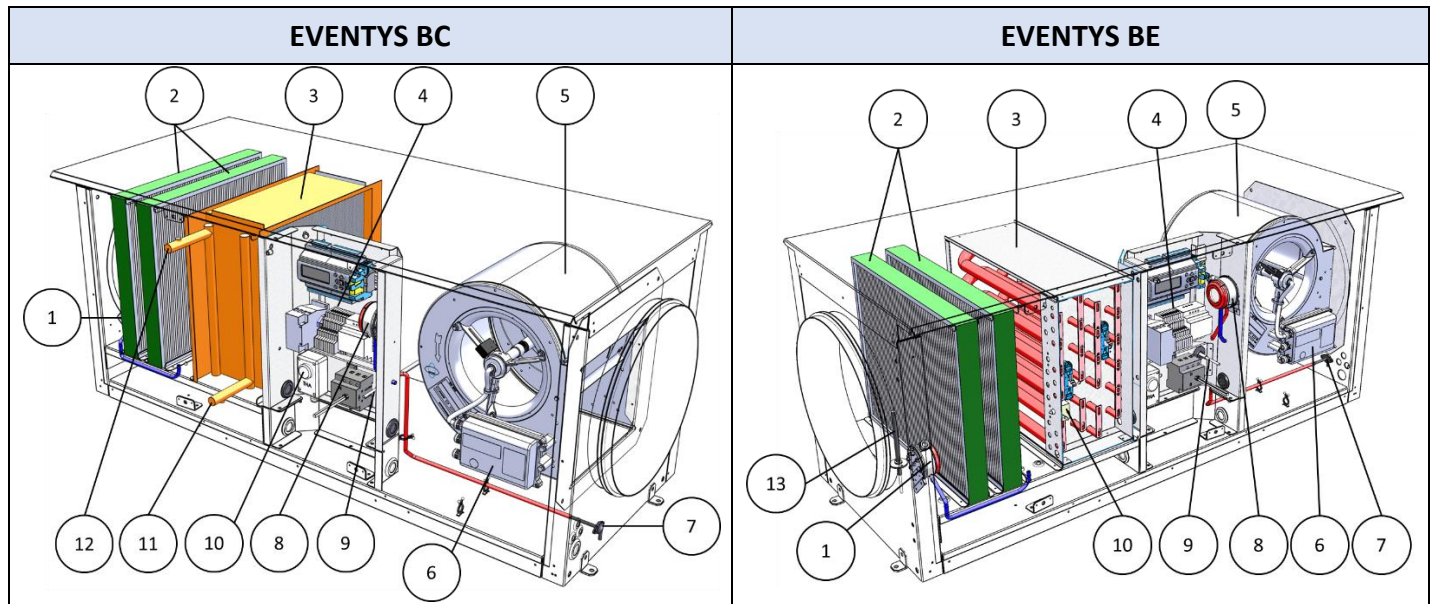
The unit is identified by a label on the front near the isolator switch:



<b>1</b>	<b>Unit size</b>	
	508	See aeraulic performance curves: XX AERAULIC PERFORMANCES
	520	
	530	
	540	
	550	
	585	
	595	
<b>2</b>	<b>Type of heating coil</b>	
	BE	Electric heater
	BC	Hot water coil
<b>3</b>	<b>Fan control type</b>	
	ECO	Constant speed control
<b>4</b>	<b>Power supply</b>	
	400V 3~+ N 50Hz	Three-phase + Neutral
	230V 1~ 50Hz	Single phase
<b>5</b>	<b>Caractéristiques de la batterie de chauffage</b>	
	Heating/Electrical/...kW	Electrical heater: power input (kW)
	Heating/Hot water/8 bar/105°C Maxi	Hot water coil: pressure (bar) / max temperature (°C)
<b>6</b>	<b>Maximum input current (A)</b>	
<b>7</b>	<b>Manufacturing number to be mentioned in any communication with the supplier</b>	
<b>8</b>	<b>Reference code of the unit (CER123456)</b>	

## VII. OVERVIEW AND CONSTRUCTION

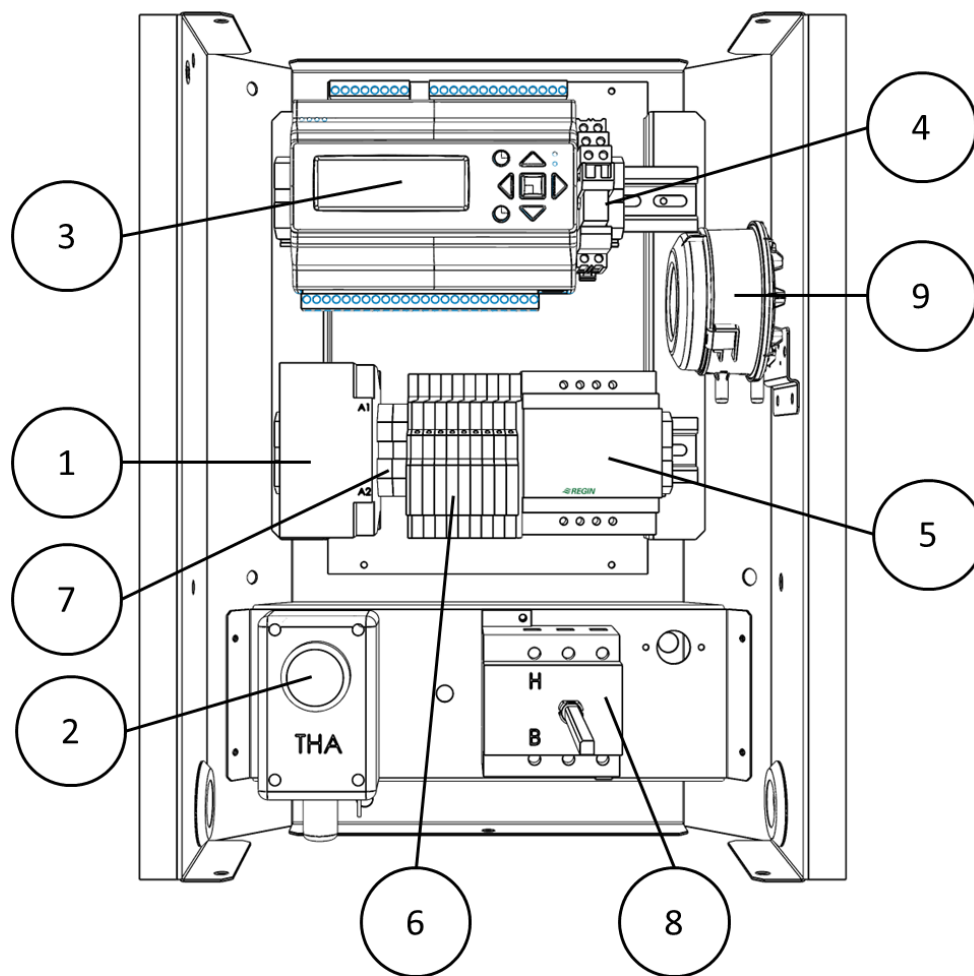
### VII.1. General overview



Mark	Designation	Components
1	DEP F	Air filter pressure switch
2		Air filters (double stage filtration) <ul style="list-style-type: none"> <li>As standard : 1 x M5</li> <li>Optional : 1 x F7 or 1 x M5 + 1 x F7</li> </ul>
3	BE	Electric heater
	BC	Hot water coil
4		Electrical compartment
5	VAS	Variable speed EC fan
6		Fan electronic control unit (inseparable from the fan)
7		Atmospheric pressure tap connected to the tap (P1+) of the DEP S
8	DEP S	Fan operation feedback pressure switch
9	SSG	Supply air temperature sensor
10	THA	Frost protection thermostat of hot water coil (EVENTYS BC version)
	THS	Overheating safety thermostat of electric heater (EVENTYS BE version)
11	IN	Hot water coil inlet (featuring a drain screw)
12	OUT	Hot water coil outlet (featuring a bleeder screw)
13	SEG	Outdoor air temperature sensor



## VII.2. Electrical compartment

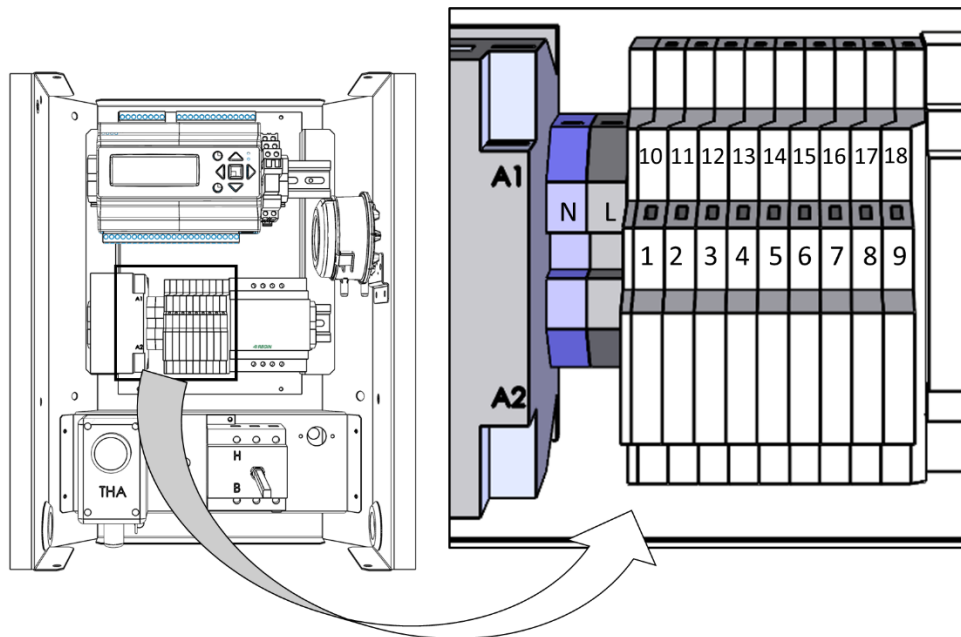


Electric board with the electronic controller

Mark	Designation	Components
1	K1	Electric heater (BE) contactor (all versions)
2	THA	Forst protection thermostat (EVENTYS BC version)
3	REG	Electronic controller with integrated HMI display
4	K2	Contactora for kitchen solutions
5	TRAFO	Control transformer 230Vac / 24Vac with built-in protection
6		User terminal blocks (see VII.3 Control terminals and user connections)
7		Fan power supply terminal blocks
8	INTER	Isolator switch with local and remote handle. The access door is locked in closed position as long as the isolator switch is in ON position. Turn OFF the isolator switch to allow the opening of the access door.
9	DEP S	Fan operation feedback pressure switch

## VII.3. Control terminals and user connections

The terminal blocks are individually numbered:



See XVI GENERAL WIRING DIAGRAM for further details.

Designation (see wiring diagram)	Definition	Terminals	Connection
<b>ADP</b>	Firefighter remote stop	1-2	To be connected to the terminals of an NC (normally closed) contact of the fire stop device. (Shunt between terminals 1-2 at the factory)
<b>THA</b>	Frost protection thermostat	3-4	To be connected to the NC contact of the frost protection thermostat THA (wired at the factory for BC version units featured with hot water coil)
<b>THS</b>	Overheating safety thermostat	3-4	To be connected to the NC contact of the overheating safety thermostat THS (wired at the factory for BE versions featured with electric heater)
<b>KS1 KS2</b>	Solid state relay of electric heater	DO1 controller - 5	Version featured with electric heater: control of the solid-state relay KS1/KS2 of the electric heater BE.
<b>Pump BC</b>	Hot water coil pump/circulator		Version featured with hot water coil: to be connected to the ON/OFF of the hot water circulator (Caution 24Vac output to be relayed)
<b>RMS</b>	Shutoff motorized damper	DO2 controller + 6	To be connected to the 24Vac supply terminals of the shutoff motorized damper.
<b>ALARME</b>	Alarm report	DO3 controller + 7	24Vac output available if the unit is faulty. (Caution 24Vac output to be relayed)
<b>DEP S</b>	Fan operation feedback pressure switch	DI1 controller + 8	Connected to the terminals (1) and (3) of the pressure switch DEP S
<b>AUX K1</b>	K1 auxiliary contact	DI2 controller - 9	
<b>DEP F</b>	Filter pressure switch	10-11	Connected to the terminals (1) and (3) of the filter pressure switch. To be disconnected in case of 2 speeds management (or 1 speed plus external stop) by external contact remote order.
<b>HS</b>	High speed remote order	12 - 13	To be connected to an NO (normally open) external dry contact.
<b>LS</b>	Low speed remote order		
<b>Stop</b>	Stop remote order		
<b>VAS</b>	Air fan	14 - 15	0-10V speed control signal of the air fan.
<b>V3V BC</b>	Hot water coil 3-Way valve	17 - 18	0-10V heating control signal. To be connected to the 3-Way valve of the hot water coil.

The temperature sensors are directly connected to the controller:

- **SSG:** supply air temperature sensor between Agnd(30) and AI1(31)
- **SEG:** outdoor air temperature sensor between Agnd(30) and AI2(32)
- **SRG (optional):** extract air temperature sensor between Agnd(33) and AI3(34).

The extract air temperature sensor is provided as an option for ambient (room) or extract air temperature control. The wiring and the connection are the responsibility of the installer.

## VIII. INSTALLATION

### VIII.1. General

The unit must be placed on a sufficiently rigid, flat, and massive surface.

Use anti-vibration and adjustable pads, soft sleeves and ducted sound attenuation if necessary.


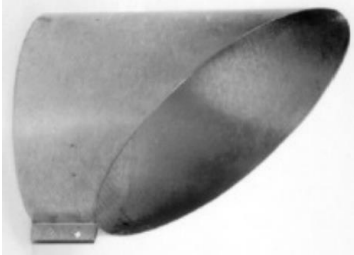
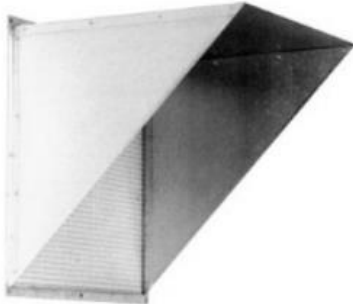
Install the unit in such a way that weather or ambient temperature cannot damage the internal components during installation as well as during future use (if necessary, provide a protective cap). If the inlet or the outlet of the fan is not connected to a duct, it must be equipped with a protective grille.

Make sure that the unit cannot detach from its holder.

In the case of vertical installation, the airflow must be from the bottom to the top.

### VIII.2. Outdoor installation

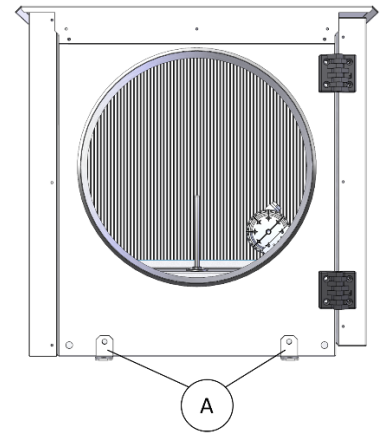
The unit is equipped with a roof as standard. For an outdoor installation, the unit mustn't be mounted vertically and must always be attached to the floor of the support frame, so that it cannot move or fall (take into account the strength of the wind). To raise the unit above the ground (water protection), there are optional foot sets (PCB), mesh nozzles (BBG) and rain canopy (AGC) available.

OPTIONS		
PCB Elevation feet	BBG Circular inclined mesh nozzle	AGC Rain canopy
		

## VIII.3. Suspended installation

The unit must be placed on a frame suspended from the structure of the building itself, taking care to respect the permissible loads (chassis to be paid by the installer).

The side mounting brackets (A) are only intended for floor mounting. They must not be used for handling or lifting the plant. To do this, use a forklift or other equivalent means to lift the unit from below in order to respect its integrity.



Always keep enough space to maintain access to the filters and the various components (fan, battery), especially in the event of removal. In all cases, the unit must be installed in the position indicated above (horizontal airflow and roof).

## VIII.4. Handling

	Pay particular attention to the lifting and lowering of the product to the ground in order to avoid any impact that could damage the structure and integrity of the product.
	If the unit is transported by crane, use a lifting beam and strap the product to keep it in the transport position (horizontal airflow).

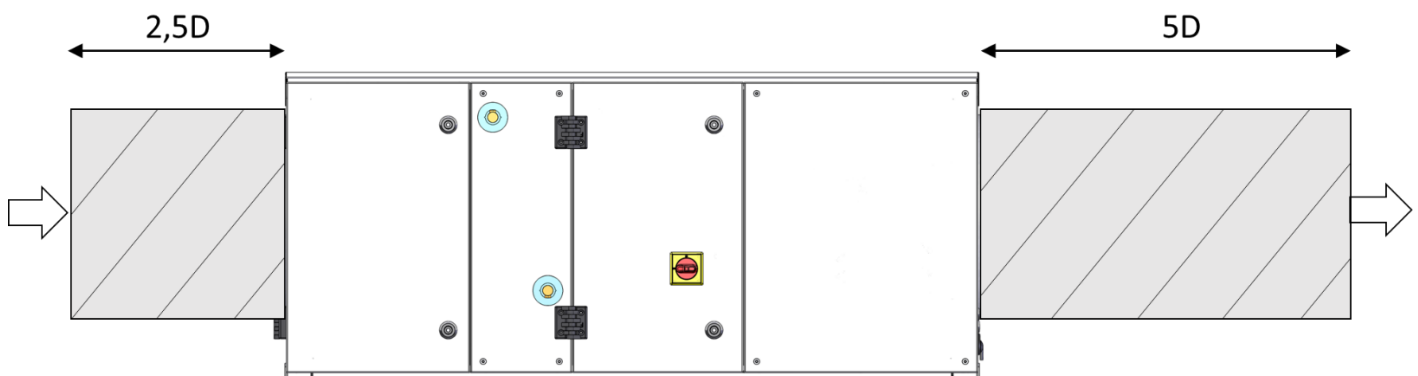
It is recommended to handle the unit on its transport medias and to remove them at the last moment as close as possible de the place of location.

If the product is handled by a forklift truck, ensure that the truck supports the load-bearing structure. Adapt the choice of handling equipment to the weight of the unit received (refer to the weight given at the beginning of the document see I.2 Weights and dimensional data).

## VIII.5. Connection to the air network

The EVENTYS unit features circular taps with lip seals to guarantee the tightness of the network (ATEC CSTB n°13-224-12).

For the connection to the network, select the duct cross-sections in relation to the dimensions of the flexible sleeves that must be properly tensioned. The network will need to be insulated and must be made according to rules of art (neither bend at the fan outlet before a minimum distance of 5 times the tap diameter, and nor bend at the fan inlet before a minimum distance of 2,5 times the tap diameter).

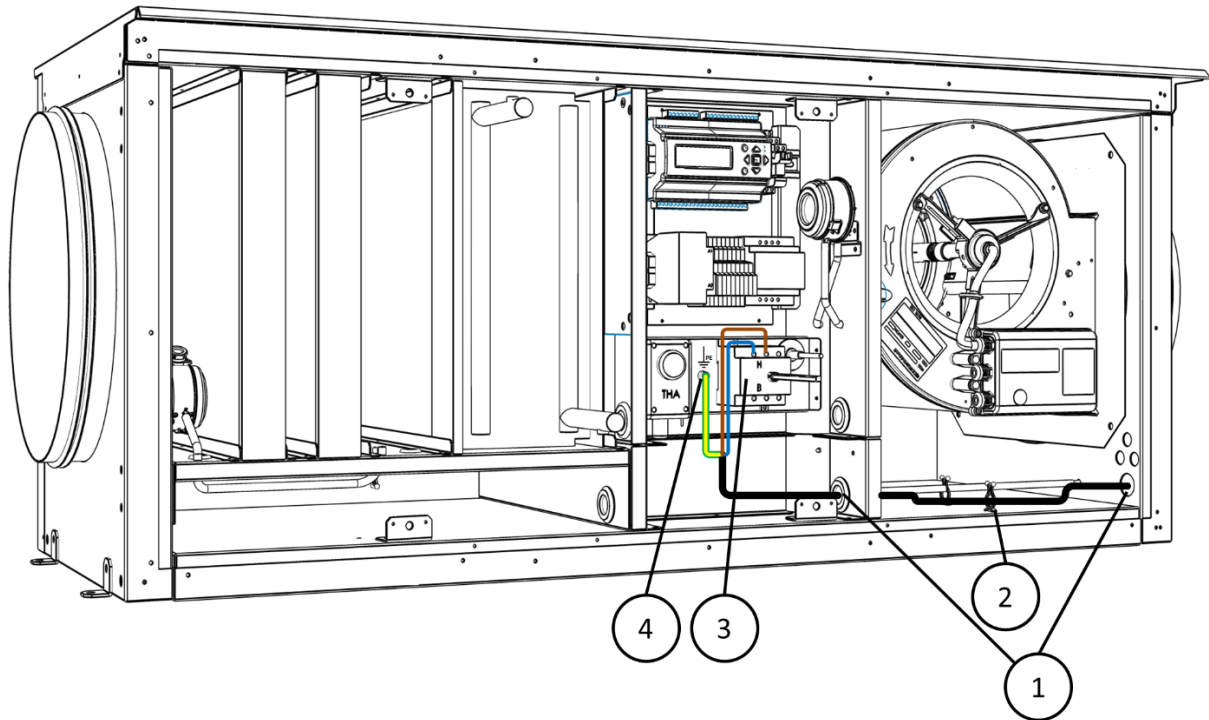


## VIII.6. Power supply connection

It is necessary to provide protection devices (circuit breaker, differential) upstream of the ventilation unit's power supply cable. The electrical characteristics required for the power supply sizing (cable cross-section, protections, etc.) are indicated in the chapter I.1 Electrical characteristics).

After opening the access door to the electrical compartment and the right removable panel, route the power supply cable through the grommets (1) and the retaining clip (2). Connect the phase and neutral wires to the terminal block of the disconnect switch (3) and the protective earth wire to the PE ground terminal (4) provided for this purpose to the left of the disconnect switch. The protective earth (PE) conductor should be slightly longer than the phase and neutral wires.

Replace the right removable panel before powering on the unit to remove access to the fan. Securely attach and clamp the power cable to an external fixed part (frame, chassis, cable tray, etc.).



## IX. ELECTRICAL CONNECTION OF EXTERNAL DEVICES

The on-board control system provides the user with specific inputs and outputs to monitor or force operation of the control unit, or to control any remote devices.

### IX.1. Alarm output signal (DO3) - 24Vac to be relayed

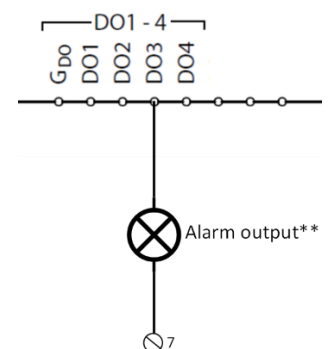
Factory setting = NO (normally open) output

Output at a standstill (Opened): no active alarm or presence of class C (warning) alarm only.

Output active (closed): Class A or B alarm active.

See the list of alarms.

24Vac to be relayed.



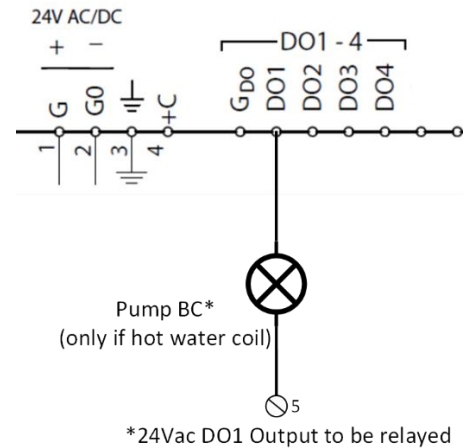
\*24Vac DO3 Output to be relayed

## IX.2. Digital output (DO1): control of hot water circulator - 24Vac to be relayed

Only for EVENTYS BC version (hot water coil).  
 Factory setting = NO (normally open) output  
 24Vac output to be relayed.

The DO1 digital output is activated when the control identifies a need for heat to comply with the temperature setpoint. This all-or-nothing signal can be used to control, for example, the operation of a circulator/pump, or a heating generator.

The DO1 output gives 0Vac when it is inactive, 24Vac when it is active.  
 The maximum current is limited to 100mA. The output must be relayed to power a component whose consumption exceeds the maximum current.



The status of the DO1 digital output is associated with the state of the analog output AO2 used for controlling the 3 ways valve of the hot water heating coil.

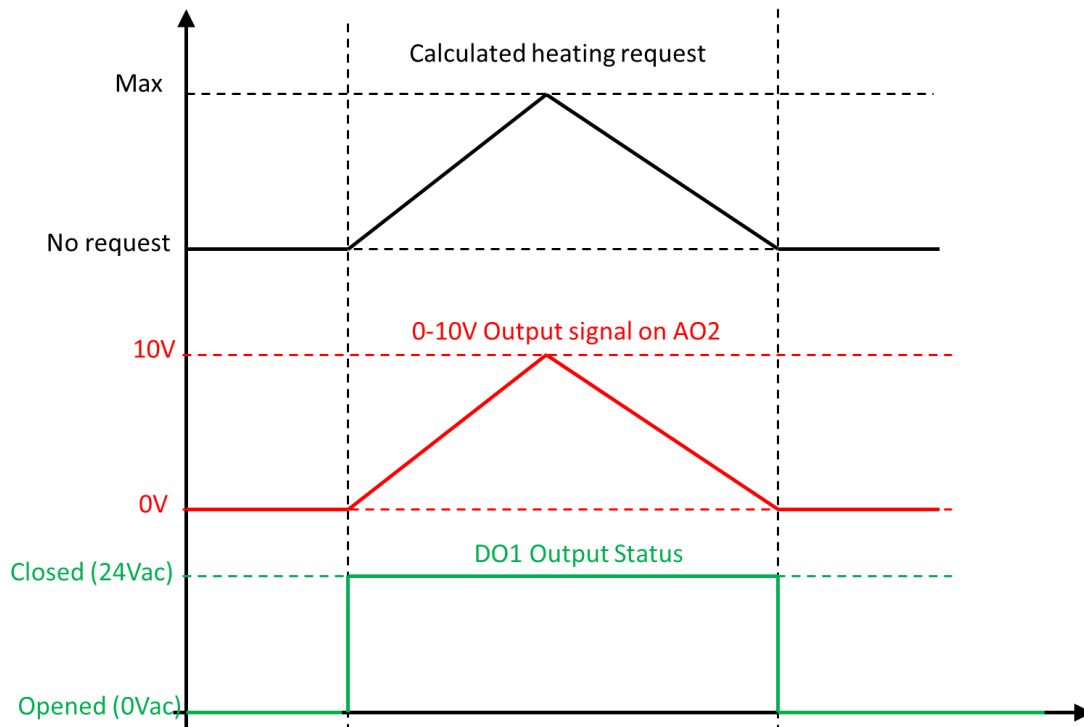
## IX.3. Analog output (AO2 – 0-10V): control of hot water 3-Way valve

Only for EVENTYS BC version (hot water coil).

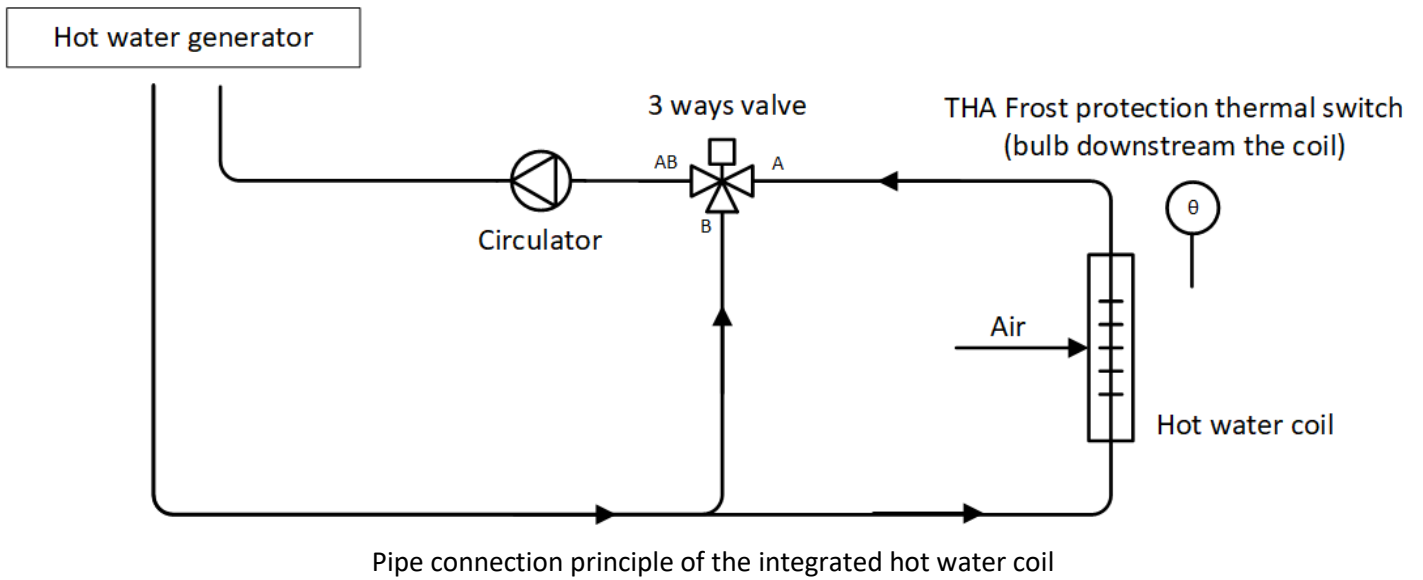
The operation of the analog output AO2 is associated with the state of the digital output DO1.

The signal from the AO2 analog output is of 0-10V type. It reflects the heat requirement calculated by the controller of the unit based on the programmed temperature setpoint and the actual measured temperature via a PI (proportional Integral) type control loop:

DO1 and AO2 Outputs status as a function of the calculated heating request



This signal can be used to manage an external device (3-way valve, heating system, etc.) that heats the room, the unit serving as a room thermostat.

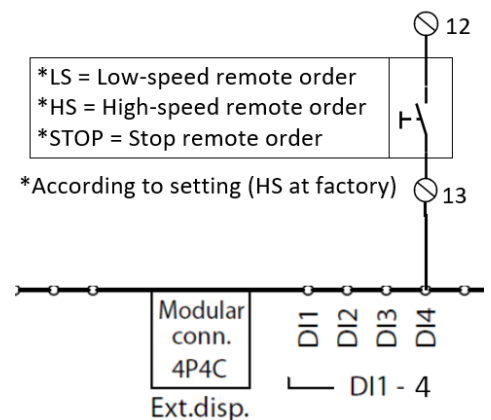


	Pipes connection	Electrical wiring
Observe the direction of the valve axis	<p style="text-align: center;">The axis of the valve must not be oriented upside down</p>	<p style="text-align: center;">3-Way valve (only if hot water coil)</p>
Observe the flow direction of the fluid		

## IX.4. Digital input (DI4) for external control of high-speed forced operation HS

The external high-speed forced operation command (normal operation) forces the ventilation speed of the unit to high speed, regardless of the operating speed requested by the time schedule and regardless of the status of the external low-speed forced operation command.

The external high-speed forced operation command (normal operation) has priority over the time schedule and the external low-speed forced operation command (reduced operation). If the unit is switched off by the time schedule, the activation of the external forced high-speed command (normal operation) will force the unit to start up at high speed. The function is activated when the contact is close.



The forced operation is set to high speed at factory. It can be set to low speed or stop, see IX.5 Digital input (DI4) for external control of low-speed forced operation and IX.6 Digital input (DI4) for external stop control.

To benefit from 2 different forced operations (e.g. low-speed and high-speed forced operations, or low-speed and external stop forced operations, or high-speed and external stop forced operations) it is possible to use the digital input DI3, see XIII.12 Changing the function associated with DI3.

## **IX.5. Digital input (DI4) for external control of low-speed forced operation LS**

The digital input DI4 is set in high-speed (HS) forced operation at factory. It can be set in low-speed (LS) forced operation see XIII.11 Setting the DI4 Digital Input (HS forced operation).

The external low-speed forced operation command (reduced operation) has priority over the time schedule. If the unit is switched off by the time schedule, the activation of the external low-speed forced operation command (reduced operation) will force the unit to start up at low speed. The function is activated when the contact is close.

To benefit from 2 different forced operations (e.g. low-speed and high-speed forced operations, or low-speed and external stop forced operations, or high-speed and external stop forced operations) it is possible to use the digital input DI3, see XIII.12 Changing the function associated with DI3.

## **IX.6. Digital input (DI4) for external stop control**

The digital input DI4 is set in high-speed (HS) forced operation at factory. It can be set as external stop control see XIII.11 Setting the DI4 Digital Input (HS forced operation).

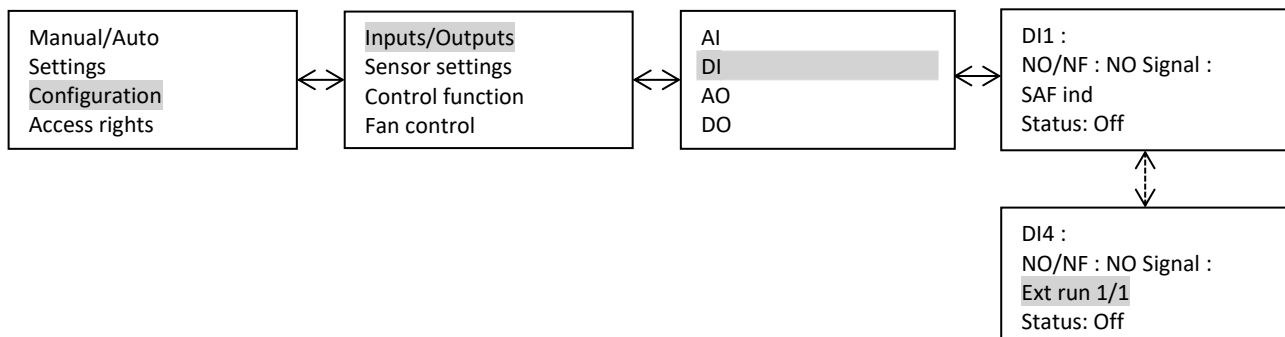
It has priority over the time schedule and external high/low-speed forced operations.

To benefit from 2 different forced operations (e.g. low-speed and high-speed forced operations, or low-speed and external stop forced operations, or high-speed and external stop forced operations) it is possible to use the digital input DI3, see XIII.12 Changing the function associated with DI3.

Modify the function associated with the DI4 input as follows:

Minimum access level:	Expert/Admin (see XIII.1)
-----------------------	---------------------------

Path to settings:





Change the parameter « Filter guard1 » according to the table below:

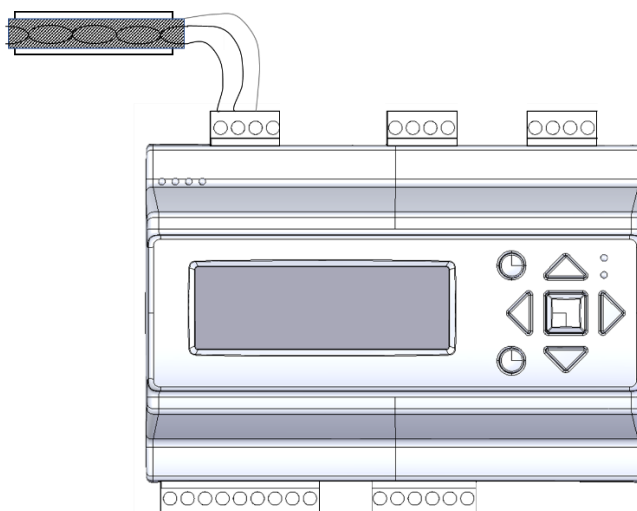
Signal type	Corresponding action
Ext run 1/1	High-speed (HS) forced operation
Ext run 1/2	Low-speed (LS) forced operation
External switch	External stop
Contact type	Corresponding action
NO (normally open)	The request is taken into account when the contact is closed
NF (normally close)	The request is taken into account when the contact is opened

## **IX.7. RS485 Communication (Modbus RTU or Bacnet MS/TP) (port P1)**

The P1 communication port is available for RS485 communication for Modbus RTU and Bacnet MS/TP protocols. It is equipped with a 4 terminals screw connector.

Use a 2-pairs twisted cross shielded cable such as BELDEN 3106A / 3107A or equivalent in order to ensure efficient data transmission. It is important to select a cable with a nominal impedance close to 120 Ohms and low capacitance. The data transmission speed will be dependent on the length of the cable. Data transmission cable must be kept away from power cables and sources that produce regular current interruption (contactors, relays, frequency drives, inverters...) to avoid interferences that could affect the quality of data transmission.

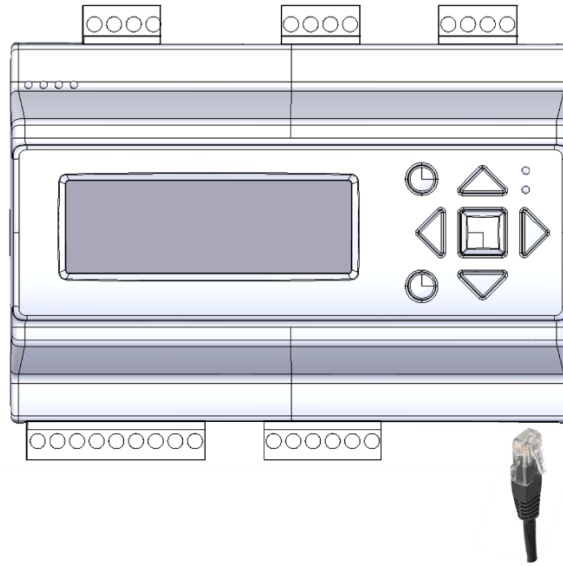
Connect the data wires (twisted pair) to terminals (A) and (B), and the shielding braid to terminal (N). Terminal (E) must remain free.



Connection of the communication wire on the P1 port (RS485)

## **IX.8. TCP-IP Communication (Modbus TCP / Bacnet IP) (TCP/IP port)**

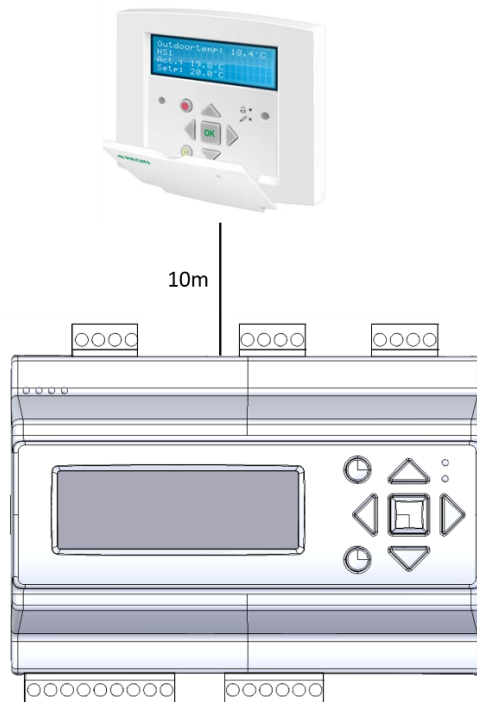
The use of Modbus TCP or Bacnet IP protocols need to use an Ethernet cable with RJ45 type connector. The connector plugs directly into the TCP/IP at the bottom right of the controller as below:



Connection of the Ethernet cable on the TCP/IP port of the controller

## **IX.9. Wired remote HMI – E3 DSP (optional)**

The unit is equipped with an electronic controller with a built-in display and can optionally receive a wired LCD HMI (E3-DSP-CLD) featuring a 10m cable length. The cable can be extended up to a maximum of 100m. This HMI is directly connected to the electronic controller on the “Ext. Disp.” port via the RJ9 connector.



Wiring diagram of the optional E3-DSP-CLD HMI

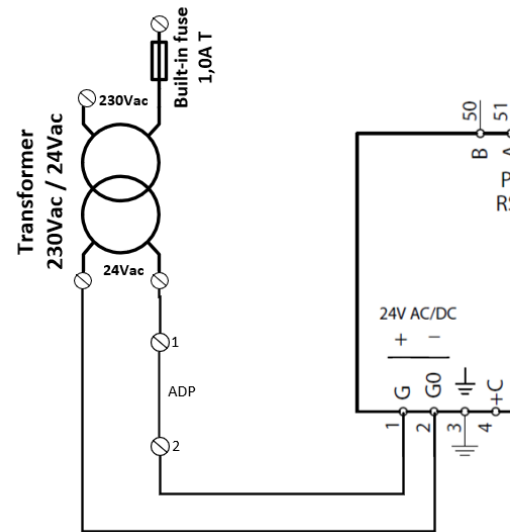
## IX.10. Firefighter remote stop control (ADP)

Replace the factory shunt between terminals (1) and (2) by a NC (Normally Closed) dry contact acting as firefighter remote control.

At the opening of the contact, the 24Vac supply is cut off depriving the control of the unit of any function (no more display available).

The shutoff motorized damper (if present) closes by means of its automatic return spring.

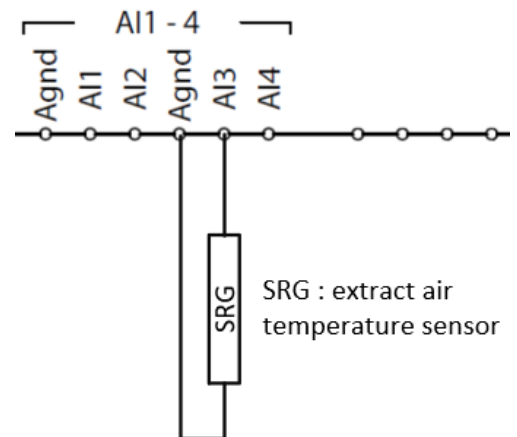
All the actuators return to their resting position.



## IX.11. Connection of the extract (room) air temperature sensor SRG (optional)

The unit is supplied for supply air temperature control as standard. An optional extract air temperature sensor (SRG) is available to control the operation of the unit to the extract (room) air temperature. It is an additional sensor and does not replace the supply air temperature sensor (SSG). When an extract air temperature control is performed, it is necessary to modify the controller setting accordingly (see XIII.13 Setting the AI3 Analog Input (SRG temperature sensor)).

The sensor is to be connected directly between the Agnd and AI3 terminals of the controller. The sensor is to be placed directly in the extract duct as close as possible to the area to be controlled.



## X. GENERAL OPERATION

The EVENTYS unit features the following functions as standard:

- o Management of supply air heating (if equipped with an electric or hot water battery)
- o Isolation: EVENTYS can be optionally equipped with a with motorized shutoff damper that closes when the unit is stopped or in the event of a power cut in order to avoid any parasitic air circulation between the room and outside.

## **X.1. Start-up sequence of the unit**

### Start-up sequence:

- The supply air fan starts
- The optional shutoff motorized damper (not factory-fitted) opens at the same time
- The temperature control starts, in accordance with the control mode that is configured. The electric heating only starts if the fan operation feedback is activated (DEP S contact in closed state)
- After a predefined time of 60s, the alarm management function is activated. The installation is then in normal mode.

### Start-up conditions:

The unit starts when one of the following condition is true:

- The timer (clock) for normal speed or reduced speed is on "On"
- The unit is started in manual mode from the regulator
- Digital input DI4 for forced operation is activated.

## **X.2. Stop sequence**

### Stop sequence:

The unit shuts down according to the following procedure:

- Deactivation of the alarm management function
- Stopping of the electric heater (EVENTYS BE version)
- Stopping of the fans after a certain predefined period of time (5s for BC version, 180s for BE version)
- Closure of the shutoff motorized damper (optional, non factory-fitted)
- The signals to the actuators are set to zero.

### Stop conditions:

The unit stops when one of the following conditions is true:

- No active timer and no external forced running (via Digital Input or BMS)
- Enabling the external stop command (DI5 if set for external stop)
- The installation is stopped manually from the controller (manual stop) or from the remote HMI E3-DSP-CLD
- Appearance of an alarm configured to stop the control panel (see XIX.7 List and meaning of alarms).

## **XI. TURNING ON/OFF THE UNIT OR FORCING THE OPERATION IN LOW/HIGH SPEED**

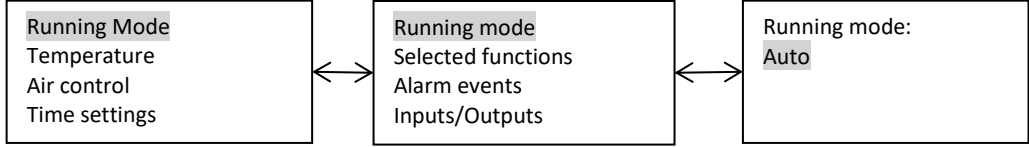
The EVENTYS unit is supplied as standard in Auto mode. The ventilation is managed by the timer or possibly by external control.

As soon as the unit is powered, the main switch on the front is in the ON position, and the starting conditions are met, the machine starts automatically.

If the unit is to be stopped, or the operation forced in low or high speed, the Operating Mode setting must be changed as follow:

Minimum access level:	User (see XIII.1)
-----------------------	-------------------

Path:



For any maintenance operation or when you want to intervene inside the plant, it is advisable to cut off the power supply through the main switch on the front after switching the unit to manual stop mode and after waiting until the fan is completely shut down (post-ventilation sequence). The main page of the HMI command writes "Fan stop" and then "Stopped" meaning total shutdown.

## XII. START-UP

The specific actions to be carried out during starting-up the unit are:

ACTION	CHAPTER
Checking the setting of the date and time of the controller and adjust if necessary	XIII.3 Setting the clock (RTC)
Adjust the timer	XIII.4 Setting the time schedules
Adjust ventilation setpoints	XIII.5 Setting the ventilation setpoints
Adjust temperature setpoints	XIII.6 Setting the temperature setpoints
Set the communication protocol (if communication used)	From XIII.7 Modbus RTU Communication (RS485) to XIII.10 Bacnet IP communication
Adjust specific functions (forced operation, etc.) if used	XIII.11 Setting the DI4 Digital Input (HS forced operation)

## XIII. SETTING UP THE CONTROLLER AND FUNCTIONS

### XIII.1. Selecting the access level

To avoid any hazardous handling that could lead to the breakdown or poorly controlled operation of the unit, access to the various control functions and functionalities is managed by access levels:

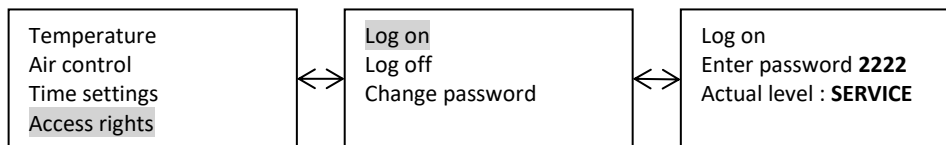
Level access	Password
User	
Operator	3333
Service	2222
Expert/Admin	1111

Before starting the modification of parameters from the control screen, it is recommended to fill in the level of access adapted to the envisaged changes.

Caution, the Expert/Admin level gives access to all the parameters of the control and can cause irreversible malfunction of the unit if incorrect settings are made.

Minimum access level:	User (see XIII.1)
-----------------------	-------------------

Path:

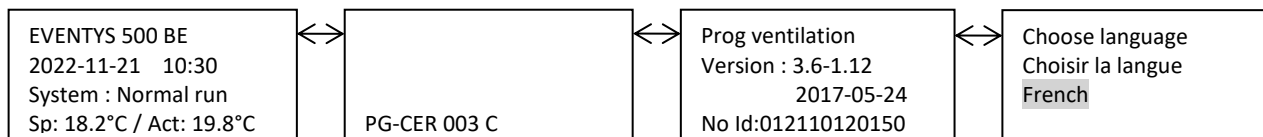


## **XIII.2. Selecting the display language**

It is possible to change the writing language of the user interface screen:

Minimum access level:	User (see XIII.1)
-----------------------	-------------------

Path:



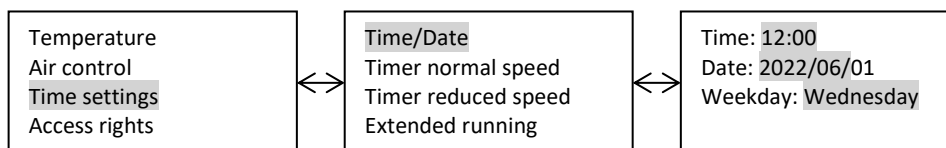
## **XIII.3. Setting the clock (RTC)**

The controller incorporates an adjustable real time clock powered by a small battery with an automatic summer/winter time change function (enabled by default). The setting is retained when the unit is not electrically supplied, i.e. during the storage, transport, and installation period or in the event of a power supply outage.

The correct setting of the clock is a prerequisite for the proper functioning of the EVENTYS control panel.

Minimum access level:	Operator (see XIII.1)
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Path:



## **XIII.4. Setting the time schedules**

The EVENTYS unit operates as standard with 2 adjustable speeds:

- Reduced speed or “Low-speed” said “LS”
- Normal speed or “High-speed” said “HS”.

The schedule programming consists of combining 2 adjustable ventilation levels (reduced speed / normal speed) with 2 adjustable time slots (period 1 / period 2), this for all days of the week, and for the days included in the holiday period.

The holiday period is defined by a beginning day/month and an end day/month. Up to 24 different periods can be settled. By default, the 1st day of the year is a day that is part of the holiday period.

The reduced speed must therefore always be programmed at least during the day and room occupancy, and the rest of time is a minimum air exchange is required.

When a reduced speed time slot and a normal speed time slot overlap, the normal speed time slot takes precedence over the reduced speed.

The time schedule is to be adapted according to the type of room occupancy, and according to whether or not the EVENTYS unit must maintain thermal comfort in this room.

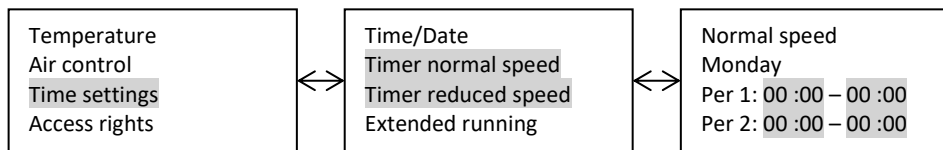
If thermal comfort must be maintained because there is no heating device in the room and the EVENTYS unit is equipped with a heating coil, permanent ventilation without a time slot for shutdown will be preferred.

On the contrary, if thermal comfort is provided by an already existing heating/cooling device and there is no night occupation, the shutdown of the machine can be considered on this time slot if there is no minimum ventilation requirement (evacuation of residual moisture, VOC...). It goes without saying that the absence of ventilation does not allow to heat or cool the room.

When the EVENTYS unit is in normal speed, the fans will operate at the speed defined in the setpoint "Air control / output 1/1".

Minimum access level:	Operator (see XIII.1)
-----------------------	-----------------------

Path:



Precautions regarding the setting of time slot:

00:00...00:00 means no active time slot

00:00...24:00 means that the hourly slot extends over the whole day, non-stop and continuously.

## ***XIII.5. Setting the ventilation setpoints***

The adjustment of the ventilation setpoints consists in associating a fan speed value for the reduced speed setpoint and for the normal speed setpoint.

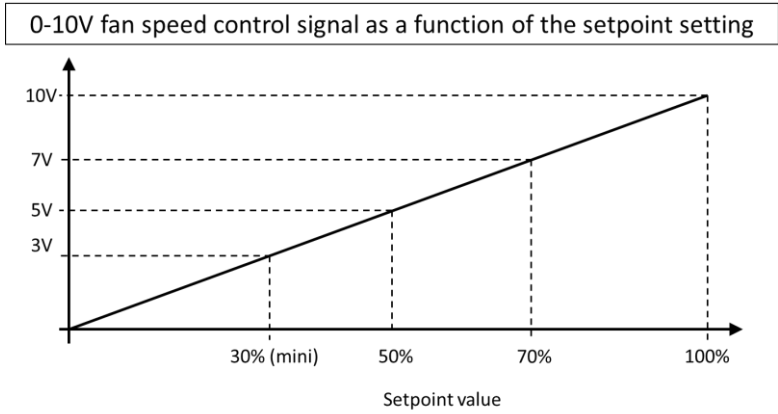
The ventilation setpoints are set at factory as follow:

- Reduced speed (or Low Speed LS): 50%
- Normal speed (or High Speed HS): 70%.

The percentage indicates the percentage of the maximum fan speed and also corresponds to the 0-10V voltage level of the controller output signal sent to the fan:

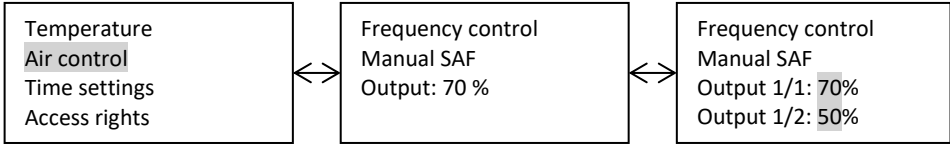
- 50% = 5V
- 70% = 7V

For proper operation of the unit, it is recommended not to set a setpoint lower than 30%. The fan starts when the 0-10V speed control signal is greater than 1V (corresponding setpoint = 10%).



Minimum access level:	Operator (see XIII.1)
-----------------------	-----------------------

Path:



### XIII.6. Setting the temperature setpoints

The EVENTYS unit offers 4 temperature management modes as standard:

- o Constant supply temperature
- o Variable supply temperature (air law at supply as a function of the outdoor temperature)
- o Constant extract temperature
- o Variable extract temperature (air law at extract as a function on the outdoor temperature).

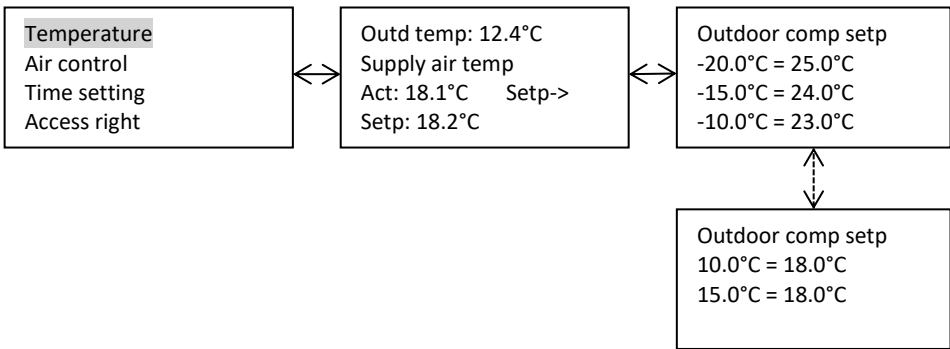
The EVENTYS unit is factory set in variable supply air temperature mode, see XIII.14 Setting the temperature control mode.

The choice of one or the other of the temperature management mode depends on the presence or absence of a heating/cooling system in the room and the equipment (electric or water heating coil) present in the EVENTYS unit.

The extract air temperature control (variable or constant) requires the installation and the connection of an optional extract air temperature sensor (SRG), see IX.11 Connection of the extract (room) air temperature sensor SRG (optional). This sensor must also be declared in the controller, see XIII.13 Setting the AI3 Analog Input (SRG temperature sensor).

Minimum access level:	Operator (see XIII.1)
-----------------------	-----------------------

Path:

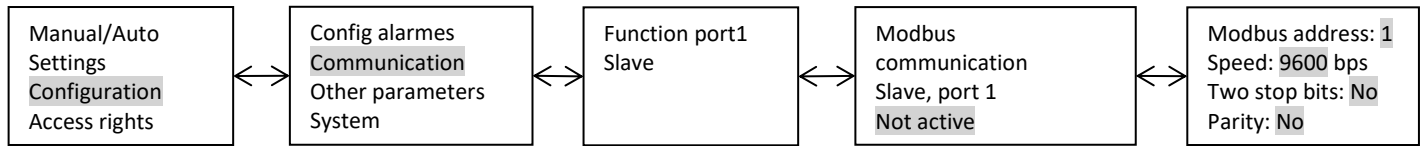




## XIII.7. Modbus RTU Communication (RS485)

Minimum access level:	Expert/Admin (see XIII.1)
-----------------------	---------------------------

Path:



Modbus RTU protocol communication is available as standard.

Its implementation must meet the following requirements:

- A maximum of 47 registers can be read in a single message
- The Master controller must wait a minimum of 3.5 characters (4ms at 9600 baud) between 2 messages
- If there are multiple slave controllers on the same line of communication, the master controller must wait a minimum of 14 characters (16ms at 9600 baud) between the regulator's last response and the next regulator's first question
- Limit to 10 fast communications every 30 seconds
- Other communications have a response time of approximately 1s.

Parameter	Factory setting	Possible values
Slave address	1	1...254
Length	8	8 only
Speed	9600 bauds	150/300/600/1200/2400/4800/9600/19200
2 Stop bits	YES	YES (2 bits) / NO (1 bit)
Parity	None	none / even / odd

The maximum communication speed depends on the length of the cable and its quality.

The list of read/write accessible variables is available in the chapter XXI DATA EXCHANGE TABLES.

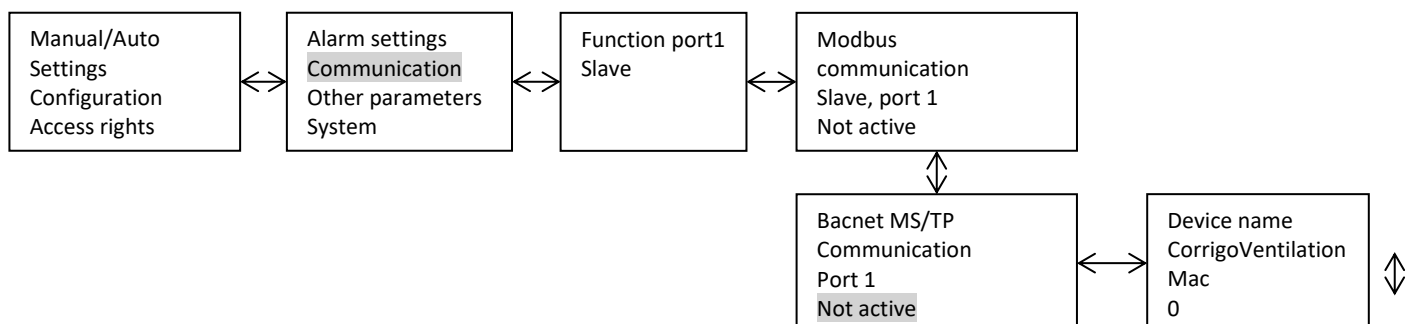
## XIII.8. Bacnet MS-TP communication (RS485)

Bacnet MS-TP protocol communication is available as standard.

The MS-TP Bacnet cannot be functional if the IP Bacnet is enabled. If the IP Bacnet is enabled while the MS-TP Bacnet is also enabled, the MS-TP Bacnet will be automatically disabled, priority is given to the IP Bacnet.

Minimum access level	Expert/Admin (see XIII.1)
----------------------	---------------------------

Path:



Parameter	Factory setting	Possible values
Device name	CorrigoVentilation	
MAC	0	
Device ID low	2640	
Device ID high (x 10000)	0	
Speed	9600 bauds	9600/19200/38400/76800/115200
Max master address	127	

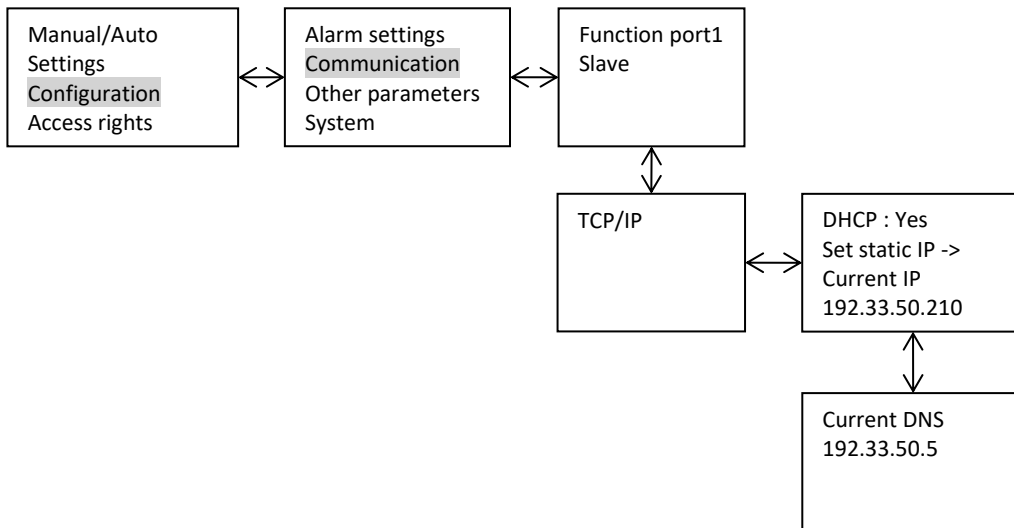
The maximum communication speed depends on the length of the communication cable and its quality.

The list of read/write accessible variables is available in the chapter XXI DATA EXCHANGE TABLES.

### **XIII.9. Modbus TCP communication**

Minimum access level	Expert/Admin (see XIII.1)
----------------------	---------------------------

Path:



The Modbus TCP protocol is enabled by default. It is automatically disabled when the IP Bacnet is enabled, and vice versa. So, there is always at least one of these 2 active protocols.

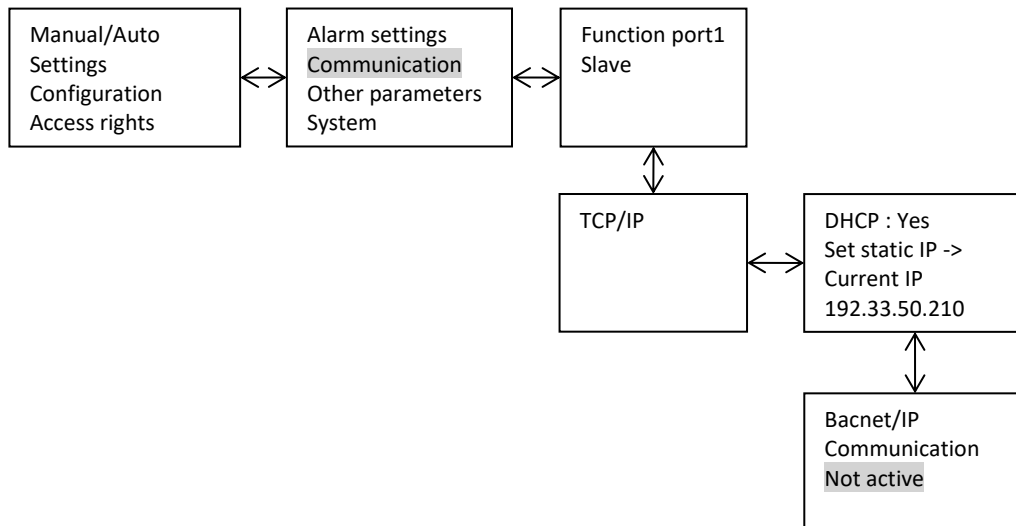
In Modbus TCP, the port number is always 502 (not adjustable) and the device ID is 1 by default. DHCP is enabled by default.

The Modbus TCP protocol requires the following settings to be adjusted:

IP Setting		
DHCP (Dynamic Host Configuration Protocol)	YES/NO	When DHCP is enabled, IP settings are assigned automatically when the device boots from the DHCP server of the subnet. A dynamic IP address will then be assigned to the device.  In case DHCP is not enabled, it is necessary to manually assign the IP parameters (IP address/Subnet mask/Gateway/DNS).
IP	Example: 192.33.50.120	
Subnet mask	Example: 255.255.255.0	
Gateway	Example: 192.33.50.40	
DNS	Example: 192.33.50.5	
Modbus TCP protocol setting		
Device ID*	CorrigoVentilation	Device name on the Bacnet IP network

\*The device ID is to be set according to the need of the BMS (recommended setting between 1 and 247) from the menu Communication / Function port 1 / Communication Modbus (the device ID is shared between the RS485 port and the TCP-IP port).

### **XIII.10. Bacnet IP communication**



If the IP Bacnet is enabled while the MS-TP Bacnet is also enabled, the MS-TP Bacnet will be automatically disabled, priority is given to the IP Bacnet.

When IP Bacnet is enabled, TCP Modbus is automatically disabled since these two protocols share the same port.

The Bacnet IP protocol requires the following settings to be adjusted:

IP setting		
DHCP (Dynamic Host Configuration Protocol)	YES/NO	When DHCP is enabled, IP settings are assigned automatically when the device boots from the DHCP server of the subnet. A dynamic IP address will then be assigned to the device.  In case DHCP is not enabled, it is necessary to manually assign the IP parameters (IP address/Subnet mask/Gateway/DNS).
IP	Example: 192.33.50.120	
Subnet mask	Example: 255.255.255.0	
Gateway	Example: 192.33.50.40	
DNS	Example: 192.33.50.5	
Bacnet IP protocol setting		
Device namme	CorrigoVentilation	Device name on the Bacnet IP network
BBMD Adress		
Low Device ID	2640	The concatenation of the low and the high device ID gives the device ID of the controller (000002640 i.e. 2640)
High Device ID (x 10000)	0	
Low UDP port number	7808	The concatenation of the low and high UDP port number gives the UDP port number (47808)
High UDP port number (x 10000)	4	

The list of read/write accessible variables is available in chapter XXI DATA EXCHANGE TABLES.

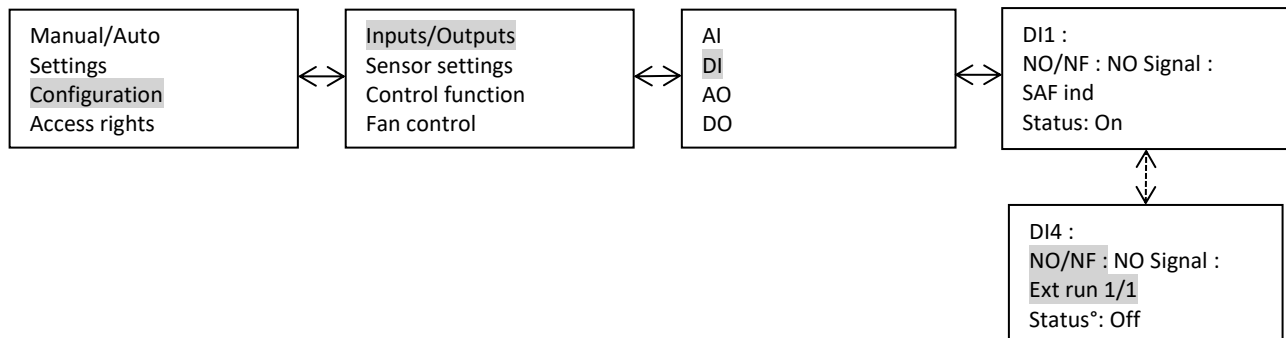
### **XIII.11. Setting the DI4 Digital Input (HS forced operation)**

The DI4 Digital Input is set as high speed forced operation (HS forced operation) at the factory. This setting may be adjusted as:

- Low speed forced operation (LS forced operation)
- External stop.

Minimum access level:	Expert/Admin (see XIII.1)
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Path:

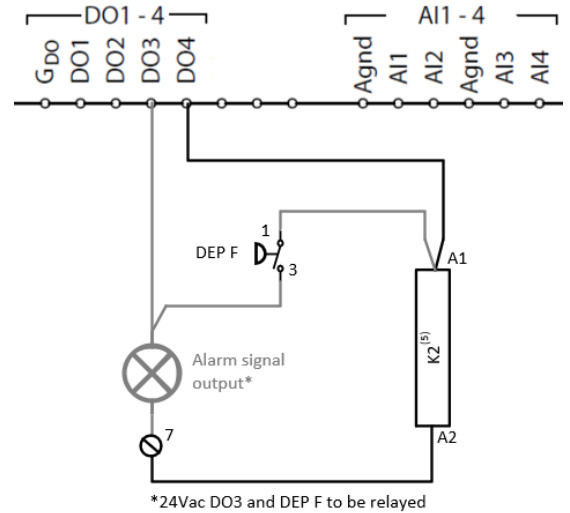


Signal type	Corresponding action
Ext run 1/1	High-speed (HS) forced operation
Ext run 1/2	Low-speed (LS) forced operation
External switch	External stop
Contact type	Corresponding action
NO (normally open)	The request is taken into account when the contact is closed
NF (normally close)	The request is taken into account when the contact is opened

### XIII.12. Changing the function associated with DI3

In the event that you would like to add a second remote forced operation to the one already available as standard (high-speed forced operation on DI4 digital input), it is possible to use the DI3 digital input on which the filter pressure switch is connected as standard after modifying the associated function (see method presented in XIII.11 Setting the DI4 Digital Input (HS forced operation)).

The filter pressure switch can be wired (see diagram opposite) to illuminate an external indicator light or equivalent device. In this case, the Alarm (6) (Filter guard1) will no longer shown in the list of active alarms or in the alarm history. It is necessary to relay the signal if the device current consumption is greater than 100mA (24Vac).

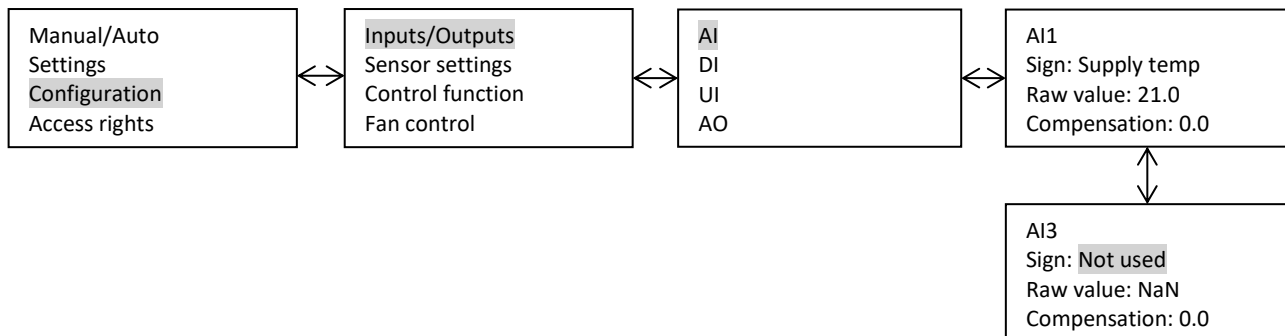


### XIII.13. Setting the AI3 Analog Input (SRG temperature sensor)

When the optional extract air temperature sensor is used, it must be connected to the AI3 Analog Input of the controller (see IX.11 Connection of the extract (room) air temperature sensor SRG). The sensor must also be declared in the controller so that it can be used as a control sensor (see XIII.6 Setting the temperature setpoints and XIII.14 Setting the temperature control mode).

Minimum access level	Expert/Admin (see XIII.1)
----------------------	---------------------------

Path:



Change the AI3 Analog Input signal from “Not used” to “Extract temp”.  
The « Raw value » should display a plausible temperature. If not, check the sensor wiring.

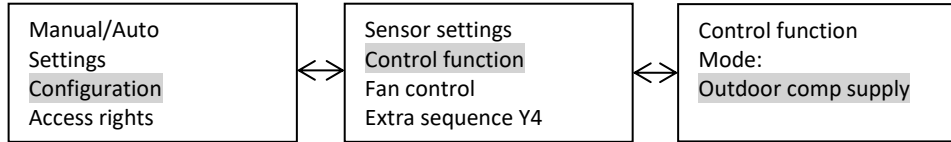
## XIII.14. Setting the temperature control mode

The EVENTYS unit is set in variable supply air temperature at the factory. If a SRG extract air temperature sensor is installed for a extract air temperature control; it requires the modification of the temperature control mode.

This sensor allows to control the constant or variable extract air temperature as a function of outdoor temperature.

Minimum access level:	Service (see XIII.1)
-----------------------	----------------------

Path:



The table below shows the 4 possible temperature control modes:

Controller parameters	Corresponding control type
Supply air control	Constant supply air temperature
Outdoor comp supply	Supply air temperature setpoint as a function of outdoor air temperature
Cascade extract ctrl	Constant air extract temperature (requires optional SRG extract air temperature sensor)
Outd comp extr air	Extract air temperature setpoint as a function of outdoor air temperature (requires optional SRG extract air temperature sensor)

## XIV. BACKUP / RESTORATION OF PARAMETERS

### XIV.1. User settings

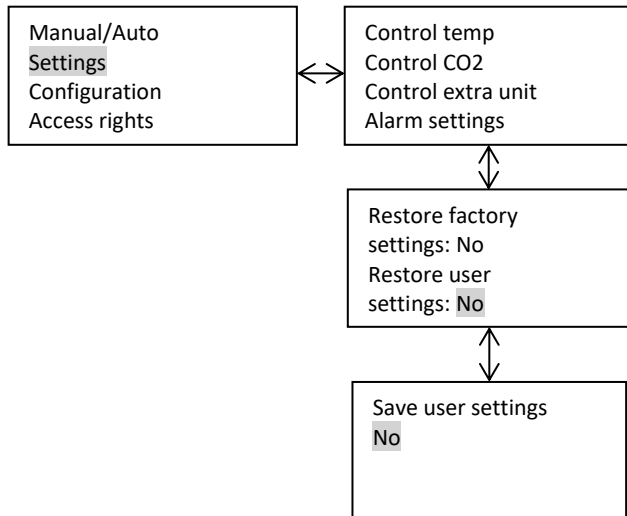
This function is particularly useful when commissioning and fine-tuning of the machine has been completed and it is desired to save all user parameters so that they can be recalled later in the event of, for example, an unintentional change in parameters that causes a malfunction of the control unit.

When leaving the factory, the user settings are identical to the factory settings. If the restoration of user parameters is called and no prior backup has been made, the restored parameters will be the factory parameters.

Minimum access level

Service (see XIII.1)

Path:



## **XIV.2. Factory settings**

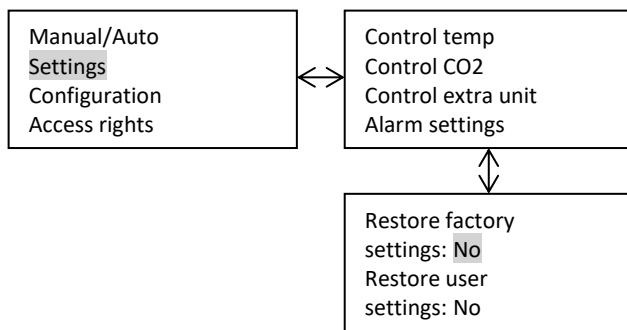
Unlike the user settings, the factory settings cannot be saved, and only the restore function is possible.

When the restore is called, all the settings changed by the user in the field are lost, and the controller restarts at the factory default values. This is particularly useful in cases where unidentifiable user settings have been changed and saved with inappropriate values making the machine unusable.

Minimum access level

Service (see XIII.1)

Path:



## XV. TROUBLESHOOTING – MAINTENANCE

### XV.1. Fresh air filter pressure switch DEP F

#### XV.1.a. Setting the tare

The condition of the supply air filters (fresh air) is continuously monitored by an air pressure switch which informs the controller of the pressure drop. If the pressure drop of the filters exceeds the pressure switch setting, the controller informs the user by means of a warning.

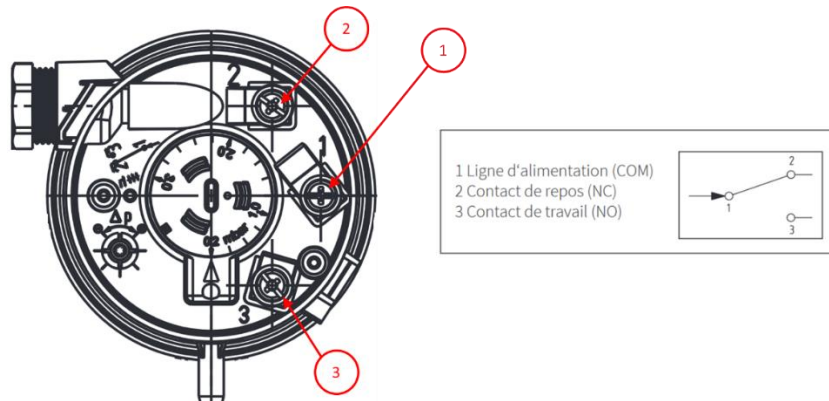
The DEP F pressure switch features 2 pressure tap P1(+) and P2(-). The change in state of the electric contact is achieved when the pressure difference between P1(+) and P2(-) exceeds the setting value of the pressure switch. If the component is replaced, observe the setting, position of the electrical connections and transparent pressure tapping tubes.



Filtration	DEP F setting
1 stage M5	150 Pa
1 stage F7	200 Pa
2 stages M5 + F7	300 Pa

#### XV.1.b. Electrical connection

The filter pressure switch is a NO type (normally open). The contact is open at rest and closes when the filter pressure drop (differential pressure) is higher than the setting (200 Pa at the factory).

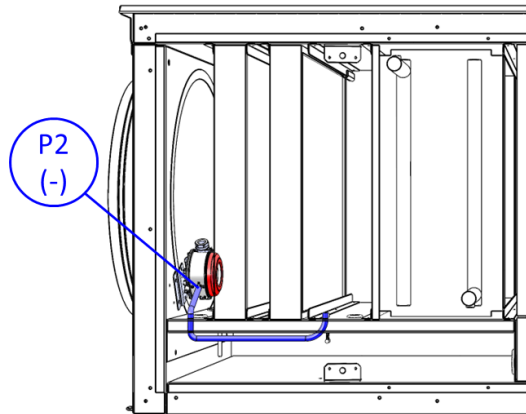


The pressure switch must be connected between terminals (1) and (3) according to the electrical wiring diagram.



## XV.1.c. Pneumatic connection

In case of replacement or removal of the component, the pneumatic connection must be respected during re-installation as described in the table below:



The transparent tube is connected at one end to the pressure tap P2(-) of the DEP F pressure switch and at the other end to the plenum at the filter outlet. Access to the DEP F filter pressure switch requires the opening of the filter access door.

## XV.2. Fan operation feedback DEP S pressure switch

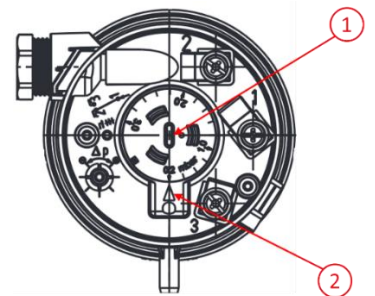
The operation of the fan is continuously monitored by a pressure switch which informs the controller if there is a sufficient air pressure at the fan. The DEP S fan pressure switch features 2 pressure taps P1(+) and P2(-). The change in state of the electric contact is achieved when the pressure difference between P1(+) and P2(-) exceeds the setting value of the pressure switch. If the component is replaced, observe the setting, position of the electrical connections and transparent pressure tapping tubes.



### XV.2.a. Setting the tare

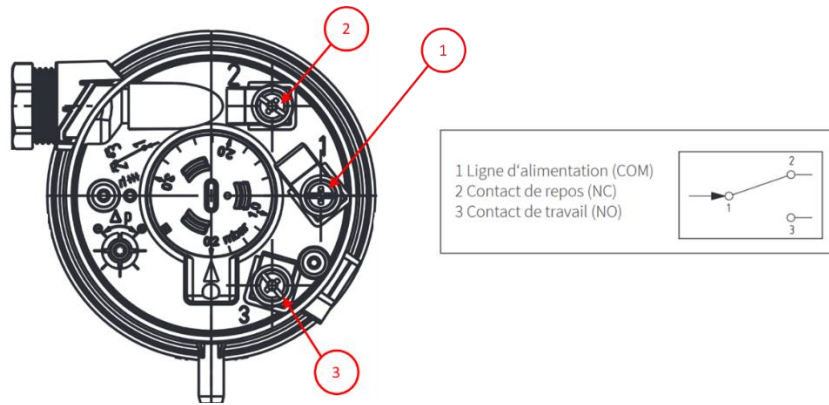
The nominal setting of the fan pressure switch is 25Pa. There is no need to change the factory setting. This setting must be respected when the component is replaced if necessary, which can be delivered on another setting value.

The adjustment is simply done using a flat footprint screwdriver by turning the central element (1) so that the arrow (2) coincides with the set value.



### XV.2.b. Electrical connection

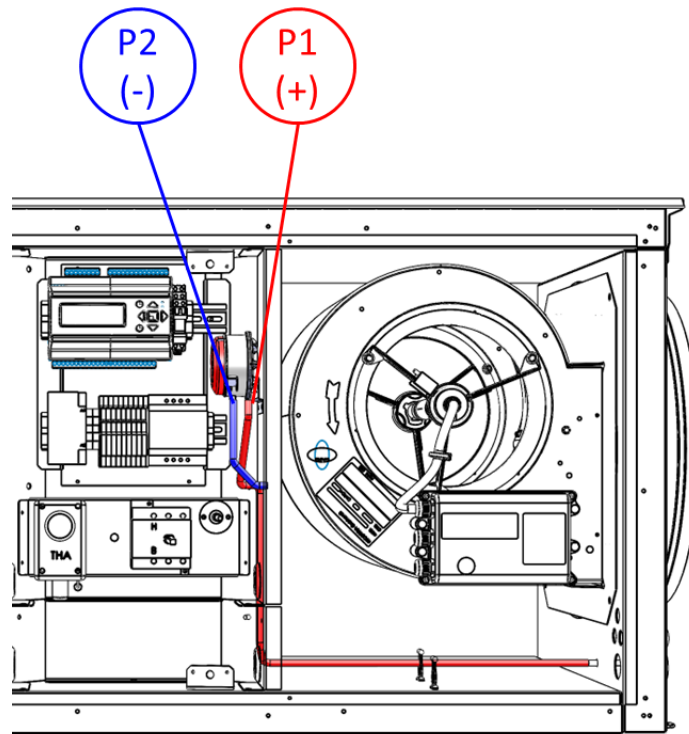
Pressure switches are of type NO (Normally Open). The contact closes when the differential pressure generated by the air flow exceeds the adjustment value of the pressure switch (25 Pa at factory).



Pressure switch shall be connected between terminals (1) and (3) in accordance with the electrical wiring diagram.

### XV.2.c. Pneumatic connection

In case of replacement or removal of the component, the pneumatic connection must be respected during re-installation as described in the table below:



The P1(+) pressure tap of the pressure switch is connected to the atmospheric pressure tap placed on the side panel by a transparent tube (shown in red colour on the picture above).

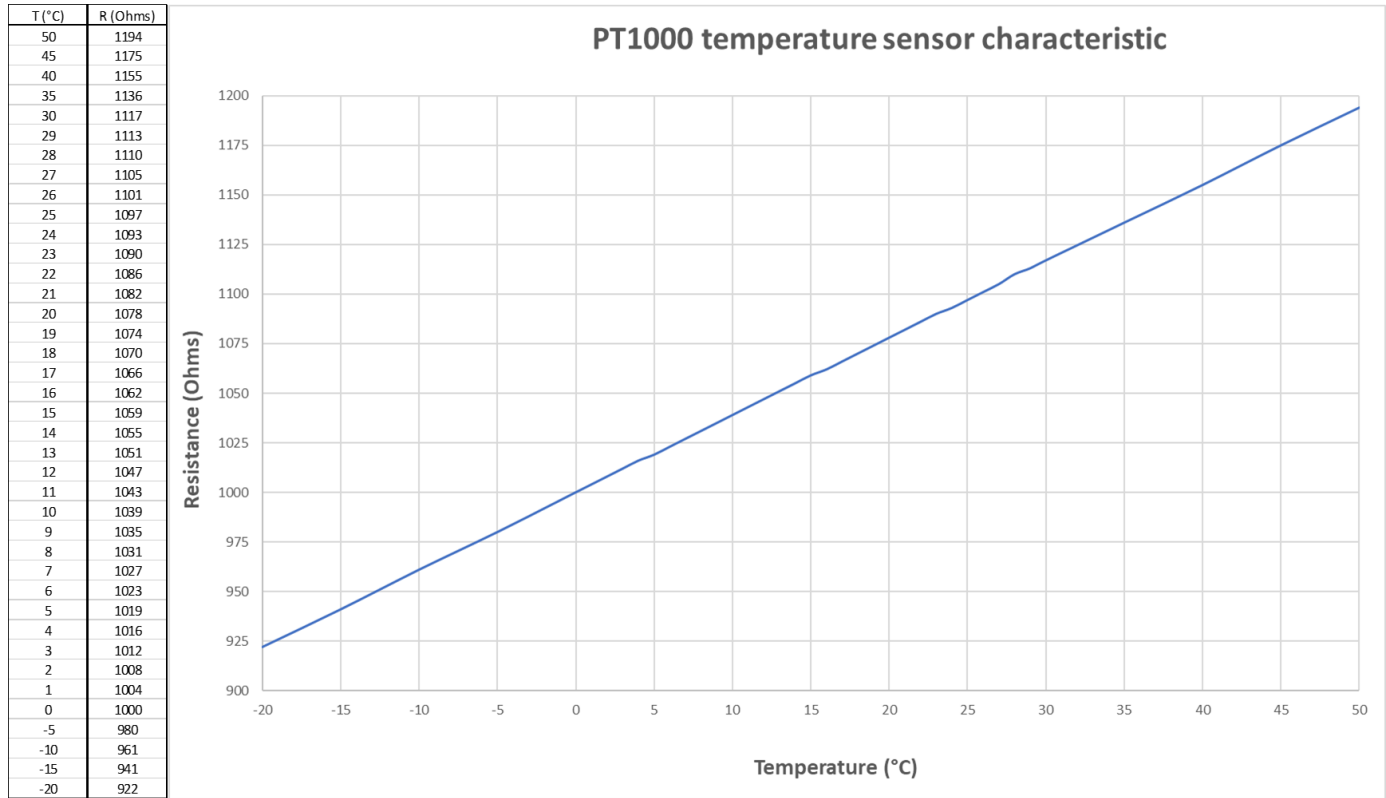
The P2(-) pressure tap of the pressure switch is connected to the pressure tap placed on the electric box by a transparent tube (shown in blue colour on the picture above).

Access to the fan operation feedback pressure switch requires the opening of the access door of the unit built-in electric box.

### XV.3. PT1000 temperature sensors

The temperature sensors are PT1000 type. The location of each temperature sensor is shown in chapter VII.1 General overview.

The curve below shows the resistance characteristic of the sensitive element as a function of its temperature:



The sensor is simply checked using an ohmmeter and a reference thermometer. The resistance measured at the terminals of the (disconnected) sensor wire must correspond to within +/- 3% of the resistance value tabulated above for the equivalent temperature measured by the reference sensor. If necessary, the sensor must be replaced. If the sensor check is good, but the control displays an incorrect value, the problem may be due to faulty connectors/wires or an incorrect offset that has been set.

## XV.4. Electric heater (BE)

	EVENTYS BE			
	08	20	30	40
Power supply	~1 - 230Vac 50Hz	~3 – 400VAC – 50Hz		
Current	16,1 A	16,2 A	30,3 A	39 A
Power input	3,7 kW	11,2 kW	21 kW	27 kW

(1) Heating part; (2) Overheating safety thermostat THS; (3) Reset button; (4) Thermostat bulb; (5) SSR Solid state relay

## XV.5. Overheating safety thermostat THS (electric heater)

The overheating safety thermostat THS protects the electric heater (if equipped) to any excessive overheating in the event of, for example, a failure of control device (contactor, solid state relay, controller, etc.) or the fan.

## XV.5.a. Location

The overheating safety thermostat THS is located on the support plate of the heating element see XV.4 Electric heater (BE).

## XV.5.b. Electric connection

The overheating safety thermostat is a NC (Normally Closed) type. The contact opens when the bulb temperature exceeds 90°C (not adjustable). The electrical connection is made between the terminals (C) and (2) according to the electrical diagram see XVI GENERAL WIRING DIAGRAM.

## XV.5.c. Manual reset

When the thermostat has triggered due to an overheating detection, it is necessary to manually reset it by pressing the white button after removing the protective cap. As long as the reset has not been carried out, the fan unit will not be able to restart and the alarm (23) "electric heating coil is overheated" will always be present.

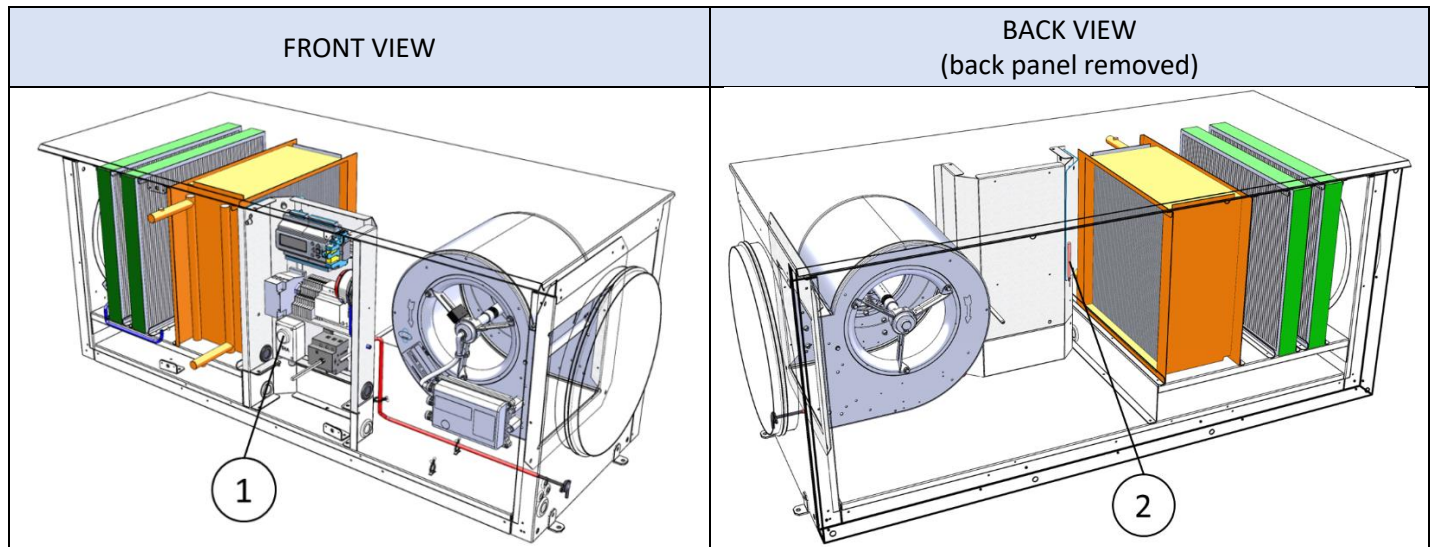
Before manually resetting the THS thermostat, it is necessary to understand and correct the cause of the malfunction.

## **XV.6. Frost protection thermostat THA (hot water coil)**

The THA frost protection thermostat protects the hot water coil from freezing in case the hot water production system (device external to the ventilation unit) is not functional and the ventilation unit is operating in full fresh air mode during periods of low outside temperature (below +5°C).

When the THA thermostat triggers (the contact opens), the fan unit stops and the hot water pump output DO3 is activated to force the heating of the coil. When the temperature of the bulb rises above +5°C, the contact closes and the unit restarts normally.

## XV.6.a. Location



Location of the THA frost protection thermostat (1) and its bulb (2)

The THA frost protection thermostat is located in the control compartment. The bulb is positioned back to the control compartment close to the hot water coil.

## XV.6.b. Setting the nominal trigger threshold

The THA thermostat is factory set to +5°C.

## XV.6.c. Electric connection

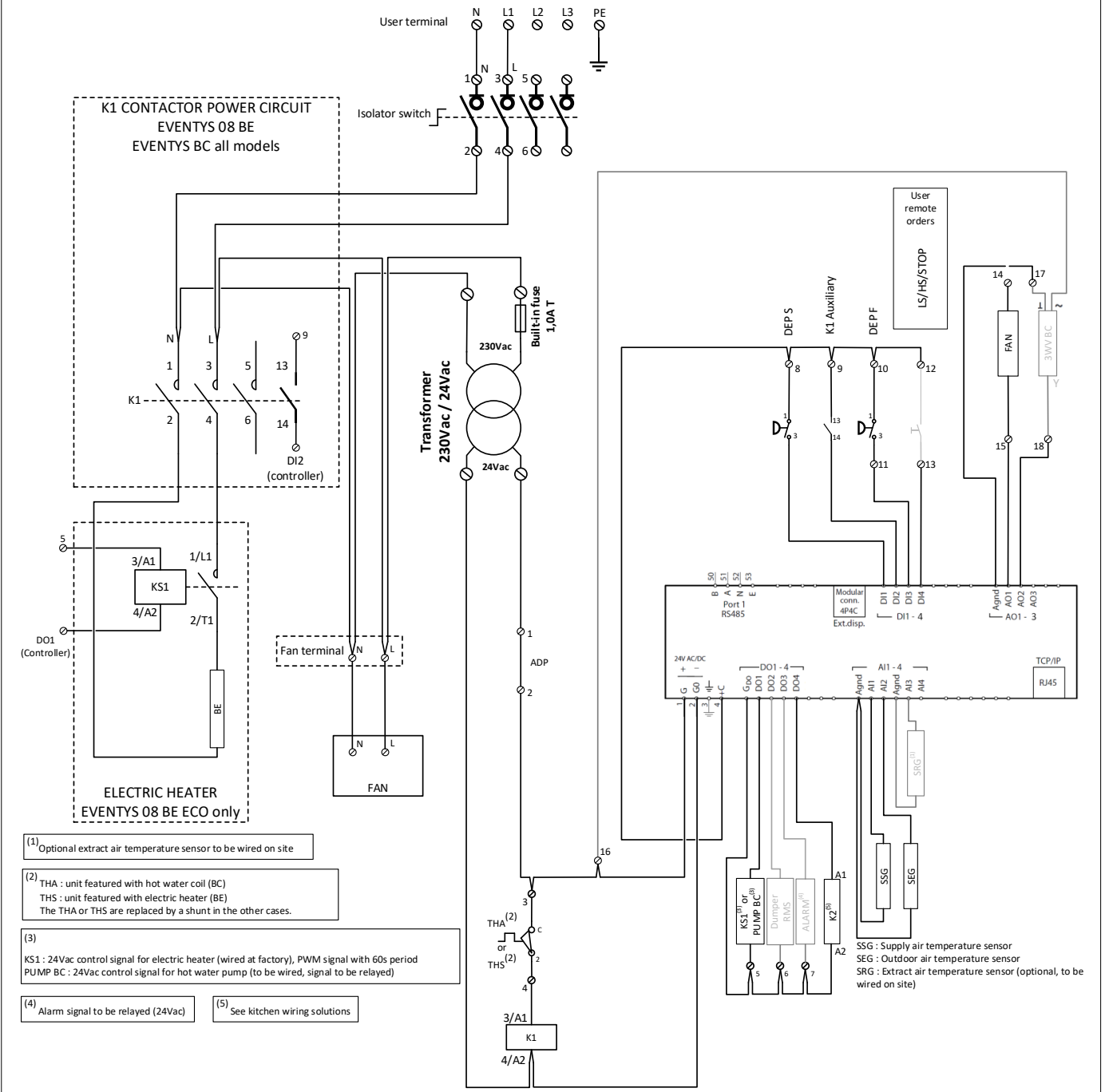
The THA frost protection thermostat is a NC (Normally Closed) type. The contact opens when the temperature of the bulb drops below +5°C. The electrical connection is made between the terminals (C) and (2) according to the electrical diagram see XVI GENERAL WIRING DIAGRAM.

## XVI. GENERAL WIRING DIAGRAM

### XVI.1. 230Vac single phase power supply

AFFECTED VERSIONS		
Taille	EVENTYS BC ECO	EVENTYS BE ECO
08	✓	✓
20	✓	
30	✓	
40	✓	
50	✓	
85	✓	
95	✓	

V0 - 20231114 - EVENTYS 500 - SINGLE PHASE



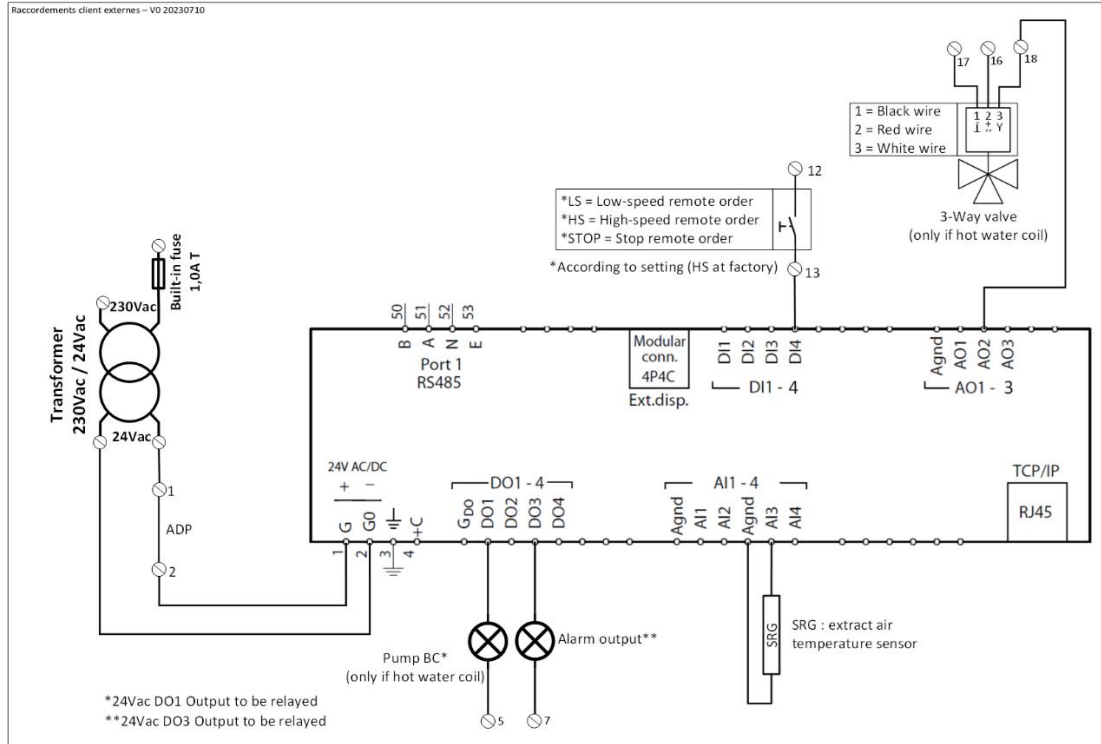


## XVI.3. Glossary of terms

STANDARD COMPONENTS (depending on unit version)		
DEP F	Filter pressure switch	All versions
K1 Auxiliary	K1 contactor auxiliary contact	All versions
FAN	Supply air fan	All versions
THA	Frost protection thermostat	If equipped with hot water coil (BC version)
THS	Overheating safety thermostat	If equipped with electric heater (BE version)
K1	Electric heater (BE) contactor	All versions
KS1	Electric heater (BE) Solid State Relay	If equipped with 230Vac or 400Vac electric heater (BE version)
KS2	Electric heater (BE) Solid State Relay	If equipped with 3-phase 400Vac electric heater (BE version)
K2	Interface relay for kitchen solution control	All versions
BE	Electric heater	If equipped with electric heater (BE version)
SSG	Supply air temperature sensor	All versions Equipped with a yellow sleeve
SEG	Outdoor air temperature sensor	All versions Equipped with a blue sleeve
DEP S	Fan operation feedback pressure switch	All versions

OPTIONAL COMPONENTS (to be wired on site)	
LS	Remote control of low-speed forced operation (reduced operation) by NO dry contact
HS	Remote control of high-speed forced operation (normal operation) by NO dry contact
STOP	Remote control of unit shutdown via NO dry contact
ADP	Remote firefighter stop by NC dry contact (shunt at factory)
ALARM	Polarised 24V AC digital on/off output for alarm signal (to be relayed – 100mA max.)
PUMP BC	Polarised 24V AC digital on/off output for hot water pump control (to be relayed – 100mA max.)
SRG	Extract air temperature sensor (for room or extract air temperature control)
RMS	Output for shutoff damper control (polarised at 24V AC)
3WV BC	0-10V control signal for the 3-way valve of the hot water heating coil (BC)

## XVII. WIRING DIAGRAM OF EXTERNAL CONNECTIONS



## XVIII. PERIODIC MAINTENANCE

### XVIII.1. General

Maintenance and decommissioning of the installations must be carried out under conditions that ensure compliance with the applicable environmental regulatory requirements. Maintenance must be carried out at least once a year or as required by applicable regulations (fire safety, etc.). Depending on the installation and operating conditions, the inspection interval may be reduced.

The warranty will be void if the maintenance instructions are not followed.

Before starting any maintenance or repair work, it is imperative to switch off the power supply and ensure that it cannot be switched on again inadvertently (lock the proximity switch in the off position for this purpose).

Service and maintenance work must be carried out by qualified personnel equipped with the appropriate tools and equipment (Personal Protective Equipment, multimeter, etc.).

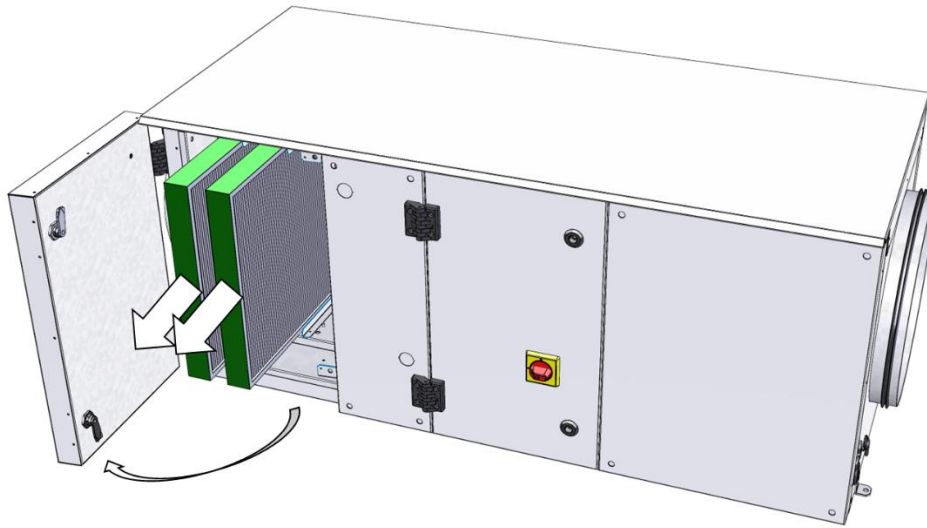
Component	Action
Exterior of the unit	Check the ducts, soft sleeves and anti-vibration pads, replace if necessary. Check that all components related to the casing are in place so that no vibration can be transmitted to the outside elements.
Fan	Dust the impeller and volute if necessary.
Electric connection	Check connections and insulators.
Filters	Check and replace filters if necessary.
Alarms	Check for any active alarms and alarm history. If the low battery alarm (48) is present, replace the internal battery to avoid losing the program the next time the power supply is interrupted. See chapter XVIII.3 Replacing the internal memory battery for the procedure to be followed.



## **XVIII.2. Replacing the filters**

The filters must be replaced with original parts to ensure the performances and the reliability of the unit.

Access to the filters requires the opening of the dedicated door:



Turn off the power supply through the isolator switch before any works inside the unit.

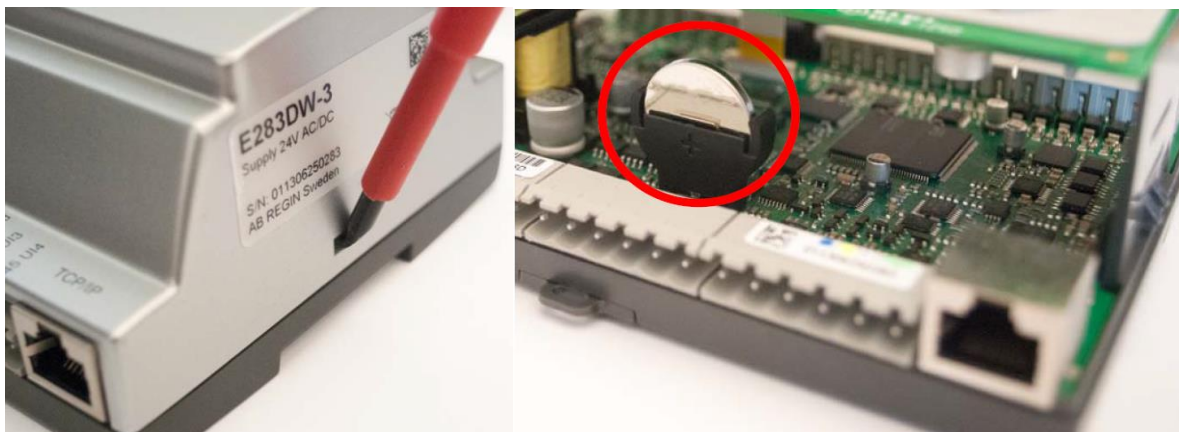
## **XVIII.3. Replacing the internal memory battery**

This procedure requires knowledge of proper ESD protection, i.e. an earthed wristband must be used!

When the alarm (48) "Internal Battery Error" is activated and the battery LED (P/B led on the controller) lights up red, the battery for backup of program memory and real-time clock has become too weak. The battery is replaced as described below. A backup capacitor saves the memory and keeps the clock running for at least 10 minutes after the power supply is removed. Therefore, if the battery replacement takes less than 10 minutes, there will be no need to reload the program, and the clock will continue to run normally.

The replacement battery must be a CR2032 type.

Remove the cover by pressing down the locking torques at the edge of the cover using a small screwdriver, and at the same time pulling the edges outwards.



Grip the battery firmly with your fingers and lift it upwards until it rises from its holder. Press the new battery firmly down into place.

**Note:** To preserve correct polarity, the battery can only be inserted the "right way round"!

## XIX. TROUBLESHOOTING

First of all, check that the electrical connectors and terminal blocks are correctly connected and tightened, and that this operation has not been omitted during the start-up phase of the equipment. Also check that the screw connectors are tight.

Defective parts must be replaced only with original components in order to comply with the regulations applicable to the product. Replacing defective parts with non-original parts will result in the loss of the manufacturer's warranty for the entire equipment.

### XIX.1. Simplified diagnostic method

The table below provides a simple diagnostic method that can be used in case of a malfunction of the ventilation unit:

Symptoms*	Possibles causes
<p>The fan is not working and the green P/B LED on the controller is off (as well as the HMI).</p> <p>Check for the presence of 24Vac voltage between the terminals "G" and "G0" of the controller.</p>	<ol style="list-style-type: none"> <li>1. Le fusible intégré au transformateur de commande 230Vac/24Vac est défectueux :               <ol style="list-style-type: none"> <li>a. Check for the absence of short-circuit on the 24Vac control circuit.</li> <li>b. Check that the digital outputs (DO1 to DO4 of the controller) are well relayed and do not directly supply any device. The maximum current is limited to 100mA on each DO controller output.</li> <li>c. Check for absence of short-circuit on AO1...A3 controller outputs.</li> </ol> </li> <li>2. An external device (e.g. ADP fire stop or equivalent) is wired between terminals (1) and (2) of the main terminal block and removing power from the controller. This device must be reset after taking the appropriate safety precautions.</li> <li>3. The 230Vac / 24Vac transformer is defective</li> </ol>
<p>The fans are not working and the green P/B LED on the regulator is on (as well as the HMI).</p>	<ol style="list-style-type: none"> <li>1. Check the presence of active alarms</li> <li>2. Check the time schedule</li> <li>3. Check the absence of external stop request</li> <li>4. Check that the reduced speed and normal speed setpoints are greater than 30%.</li> </ol>

\*The unit is properly powered and the isolator switch is on the ON position.

### XIX.2. Alarms classification

Every alarm is defined by a class (A, B, or C).

The class defines how the alarm (or fault) is acknowledged.

Alarm class	Description
A	The cause has disappeared and the alarm must be manually acknowledged.
B	In the controller, if the alarm is manually acknowledged before the cause has disappeared, this manual acknowledgment request is requested, and the machine will automatically restart when the cause has disappeared.
C	Class A and B are identical. The interest is to be able to distinguish the action for the same type of reset.
Not active	The alarm is not considered.

## **XIX.3. Actions of alarms**

In addition to its class, each alarm is defined by an action.

The action of an alarm defines the behaviour of the machine when the corresponding alarm occurs. There are several actions:

Action	Description
Not active	Used as a warning. When the alarm appears, the machine continues to operate as if nothing had happened. This action is used for malfunctions that are not important for the safety or integrity of the machine (e.g. pressure deviation).
Normal stop	The post-ventilation sequence is considered. This sequence is defined by the shutdown times of the fans and the fresh air and exhaust air dampers, which determine the effective shutdown time of the machine.
Reduced speed	The alarm forces the reduced speed regime.

## **XIX.4. Alarm delay**

The delay specifies the length of time the cause must be present to activate the alarm. It is a delay in onset.

It is a condition available for all alarms.

There is no delay in the disappearance of the cause. When the cause disappears, the alarm is instantly cancelled.

## **XIX.5. Alarm threshold**

For some alarms, in addition to the onset delay condition, a second threshold condition must be set.

When the criterion has exceeded the threshold within the defined time, the alarm is activated.

The alarm threshold is available for alarms whose cause depends on an analogue value, e.g. temperature too high, pressure or flow too low, etc.

The hysteresis is zero and not configurable.

## **XIX.6. Alarm status**

When an alarm is present, it can take several states depending on the state of the cause:

Alarm status	Description
Active	The cause is currently present.
Cancelled	The cause is gone. This is the case, for example, of a fan return air pressure switch that remains open.
Acknowledged	The alarm has been manually acknowledged (but the cause is still present).
Blocked/Unblocked	When the alarm is blocked, its action is inhibited. This is particularly useful during a set-up or adjustment phase when some sensors have not been connected or are missing.

## XIX.7. List and meaning of alarms

Nr	Display	Class	Delay	Threshold	Action	Conditions	Causes (The causes can be cumulative)
1	Malfunction supply air fan	B	120s	DEPS Pressure switch setting value	Stop	<p>The contact of the supply fan pressure switch has remained open for more than 120s during normal operation of the unit.</p> <p>The DI1 input must be in the closed state "ON" when the ventilation unit is in operation, in the open state "OFF" when the unit is off.</p> <p>The pressure switch is a NO type (normally open).</p>	<p>Motor of the supply air fan:</p> <ul style="list-style-type: none"> <li>- Defective</li> <li>- 0-10V control signal reversed</li> <li>- Faulty electrical wiring/connection</li> </ul> <p>Supply fan control pressure switch:</p> <ul style="list-style-type: none"> <li>- Faulty</li> <li>- Incorrect electrical connection</li> <li>- Incorrect pneumatic connection</li> <li>- Incorrect setting (factory setting = 30Pa)</li> <li>- Incorrect electrical wiring/connection</li> </ul> <p>Transparent pressure switch tubes for fan operation control:</p> <ul style="list-style-type: none"> <li>- Wrong connection</li> <li>- Presence of internal condensation water. This may be due to prolonged shutdown of the unit, or repeated/too many on/off cycles. Adjust the machine for continuous operation.</li> <li>- Foreign matter or dust in the tube or pressure tap.</li> </ul> <p>See XV.2 Fan operation feedback DEPS pressure switch. The reduced speed and/or normal speed setpoint is too low, and the fan speed signal does not achieve sufficient pressure to switch on the fan run control pressure switch.</p> <p>RMS motorised shutoff damper remains in closed position. Ductwork obstructed.</p>

Nr	Display	Class	Delay	Threshold	Action	Conditions	Causes (The causes can be cumulative)
6	Filter guard 1	C	5s	DEP F Pressure switch setting value	No stop	<p>Machine in operation, DI3 input must be in the open state "OFF" when the state of the filters is suitable, in the closed state "ON" when the filters are clogged (high filter pressure drop).</p> <p>The filter pressure switch contact has closed for more than 5s during operation.</p>	<p>The filter(s) are dirty and need to be replaced.</p> <p>The filter(s) is (are) from a third party with pressure drop characteristics that are not compatible with the machine.</p> <p>The filter pressure switch is incorrectly connected.</p> <p>The pressure switches are incorrectly set (factory settings: 150Pa for M5, 200Pa for F7, 300Pa for M5+F7)</p> <p>The connection of the transparent tubes to the filter pressure switch is not correct or there is water condensation in the tubes, see XV.1 Fresh air filter pressure switch DEP F.</p>
8	Frost guard (if hot water heating coil)	C	180s		Stop	<p>The DI2 input must be in the closed state "ON" if there is no fault, in the open state "OFF" if there is a fault.</p> <p>The contact of the anti-freeze thermostat connected to the DI2 input of the hot water coil has detected a temperature lower than +5°C for more than 120s, the unit is stopped and restarts automatically when the thermostat is back above +5°C.</p> <p>The thermostat is of the NC type (normally closed). The contact is closed when the bulb temperature is higher than +5°C and open when the temperature is lower than +5°C.</p>	<p>THA Thermostat:</p> <ul style="list-style-type: none"> <li>- Wrong setting (factory setting = +5°C)</li> <li>- Faulty</li> </ul> <p>The hot water circulator does not work.</p> <p>3-way valve:</p> <ul style="list-style-type: none"> <li>- Faulty</li> <li>- Bad electrical connection</li> <li>- Bad air connection</li> </ul> <p>The hot water generator does not work.</p> <p>The wiring or connections are defective.</p>
15	High supply air temp	B	5s	50°C	Stop	<p>The supply air temperature measured on AI1 input has exceeded the 50°C threshold for more than 5s. The machine is stopped, the alarm must be manually acknowledged and the temperature lowered in order to restart the machine.</p>	<p>The supply air temperature setting is too high.</p> <p>The supply air fan has stopped (see "Malfunction supply air fan") while the heating coil was running at full capacity.</p> <p>The PT1000 temperature sensor and/or its cable are defective.</p> <p>The solid state relay that supplies the electric coil is defective (passing) and supplies the electric coil permanently as soon as the fan unit is powered (presence of alarm (23)).</p>

Nr	Display	Class	Delay	Threshold	Action	Conditions	Causes (The causes can be cumulative)
23	<p>Surchauffe batterie électrique (si option batterie chauffage électrique BE)</p> <p>Electric heater (if present) is overheated.</p>	A	0s		Stop	<p>The THS overheat safety thermostat of the electric heater (NC - normally closed type) has triggered by going to the open state meaning that the temperature of the coil has exceeded 90°C (thermostat setting).</p> <p>The DI2 input must be in the closed state "ON" if there is no fault and in the open state "OFF" in case of an overheating fault.</p> <p>The THS thermostat must be reset manually by pressing the reset button on the thermostat body.</p>	<p>Power failure while the electric heater was active.</p> <p>Reduced speed or normal speed setpoints too low (30% minimum).</p> <p>The supply air fan stopped spontaneously (see "Malfunction extract air fan") while the electric heater was at full capacity with a low flow rate.</p> <p>Power solid state relay that supplies the electric heater is defective (on), and permanently supplies the electric battery as soon as the fan unit is powered.</p> <p>Auxiliary contact of K1 blocked in open state.</p> <p>Faulty wiring/connection on the auxiliary contact circuit of K1.</p> <p>Safety thermostat THS:</p> <ul style="list-style-type: none"> <li>- Faulty</li> <li>- Poor electrical connection</li> </ul>
27	Outdoor air temperature sensor error	B	5s		No stop	The AI2 analogue input has detected an implausible signal (open circuit or short circuit) for more than 5s.	<p>The outdoor temperature sensor SEG placed at the outdoor air inlet and/or its cable and/or its connection to the controller are defective (open circuit or short circuit).</p> <p>The SEG outdoor temperature sensor is incorrectly wired</p>
35	Ventilation manual mode	C	0s		Operation according to the selected manual mode.	<p>The running mode of the machine is no longer in automatic "auto" and is currently either in:</p> <ul style="list-style-type: none"> <li>- Manual stop</li> <li>- Or Manual speed 1/2 (= reduced speed)</li> <li>- Or Manual speed 1/1 (= normal speed)</li> </ul> <p>The machine follows the setpoint of the selected manual running mode. The alarm is automatically acknowledged when the manual operating mode is changed back to "auto".</p>	In the Operating Mode menu, set the parameter to "Auto".

Nr	Display	Class	Delay	Threshold	Action	Conditions	Causes (The causes can be cumulative)
36	Manual air supply control	C	0s		No stop	The supply air temperature control is in manual mode.	Supply Temp Ctrl must be set to Auto in the Manual/Auto menu.
37	Manual supply air fan mode	C	0s		No stop	The supply fan speed control is in manual mode. The fan starts when the control signal AO1 > 1V.	SAF must be set in Auto in the Manual/auto menu.
38	Manual supply air fan freq control	C	0s		No stop	The AO1 output for the SAF supply air fan is in manual mode. The fan starts when the AO1 control signal > 1V. The alarm is self-resetting when the output returns to automatic mode.	SAF must be set in Auto in the Manual/auto menu.
41	Manual heater control	C	0s		No stop	The AO2 output for the 3-way valve control of the heating coil is in manual mode. The alarm is self-resetting when the output returns to automatic mode.	Heating must be set in Auto in the Manual/auto menu.
48	Internal batterie error	A	0s		Stop	The internal battery of the controller has reached the minimum state of charge to ensure that the internal memory (settings) and clock settings are retained in the event of a power failure to the controller. If the battery is not replaced, the user settings and clock may be lost in the event of a brief power failure. The occurrence of the alarm stops the machine, and the alarm must be manually acknowledged to disappear.	The internal battery of the controller is too old or defective. Change the battery as soon as possible to avoid losing the program by following the procedure (see XVIII.3 Replacing the internal memory battery).
49	Supply air temperature sensor error	B	5s		No stop	The AI1 analog input has detected an implausible signal (open circuit or short circuit) for more than 5s. The signal at the AI1 analog input must return to a normal range and the alarm must be acknowledged.	The SSG temperature sensor at the supply outlet and/or its cable and/or its connection to the controller are defective (open or short circuit). The SSG supply air temperature sensor is incorrectly wired (see XVI GENERAL WIRING DIAGRAM).
85	Output in manual mode	C	0s		No stop	At least one DO output has been switched to manual mode for more than 5s.	All functions must be in "Auto" mode in the Manual/Auto menu.

## **XIX.8. Acknowledgement procedure for a class A or B alarm**

Class A or B alarms require manual acknowledgement via the HMI in order to return the unit to normal operation.

The procedure for manually acknowledging an alarm (class A or B) consists, from the Active Alarms menu, of recording the alarm by selecting the "record" option for the alarm in question. This alarm can be in the following states:

- Active: the fault is currently present, the manual acknowledgement (recording) will not allow the machine to be restarted until the fault is corrected. This is the case, for example, for the triggering of the overheating safety thermostat of the electric heating coil (BE)
- Returned: the fault has disappeared (or been resolved) and has therefore been cancelled (is no longer present). Recording this will allow the machine to be restarted. It will reappear if the problem persists.

When an active alarm is cancelled, blocked, or acknowledged, this change of status is recorded in the alarms history (alarms events), which makes it possible to know exactly when faults appear/disappear, thus facilitating the diagnostic procedure.

## **XIX.9. Presence of actives alarms**

The presence of active alarms is indicated by the flashing of the red LED on the HMI of the unit.

Pressing the red button on the HMI allows direct access to the active alarms menu if at least one active alarm is currently present. If there are several alarms present at the same time, the last one is displayed by default, and it is possible to display them one after the other by successively pressing the up or down arrow.

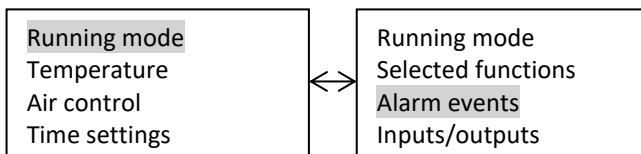
Access to the active alarms menu does not require an access level.

## **XIX.10. Alarm events**

Alarm events is a menu that provides access to all of the last 48 recorded alarms.

Minimum access menu	User (see XIII.1)
---------------------	-------------------

Path:



On y retrouve :

- Date and time of occurrence or change of status
- Alarm ID (unique ID for each alarm)
- The name of the alarm
- Current status.

The history allows to know the evolution of the status of each alarm from the moment it appeared until its disappearance.

For example, it is possible to know when the fan fault alarm appeared (Activated), when it was manually acknowledged by the technician (Acknowledged), and when the fault actually disappeared (Returned).

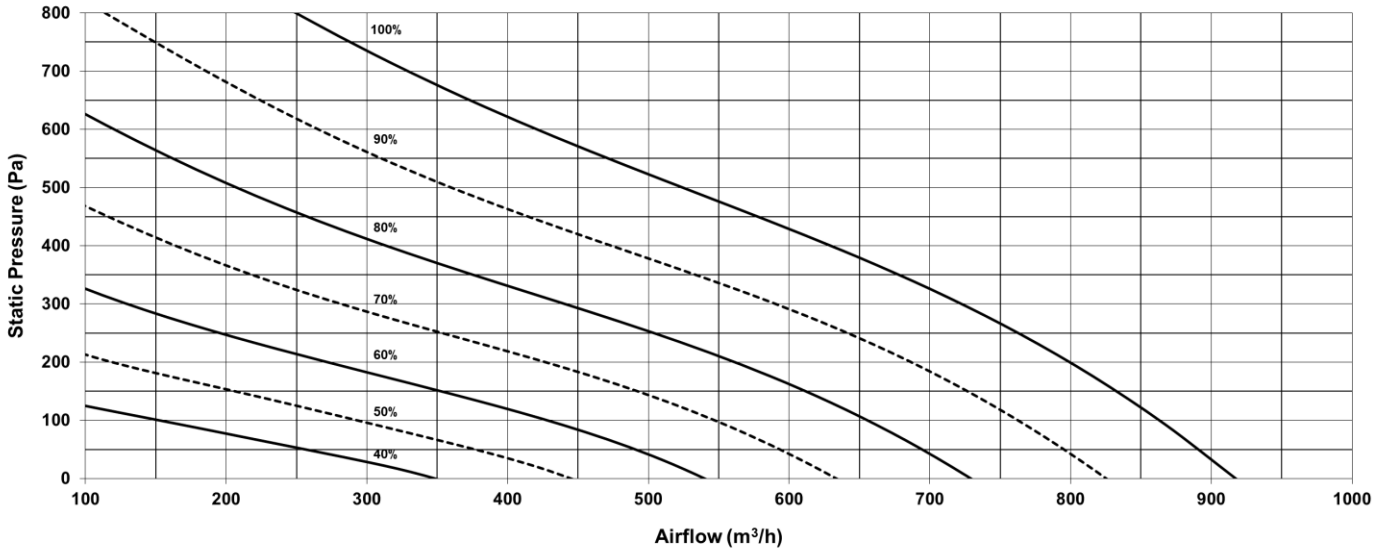
The management of the alarms in the buffer is of the FIFO type: the 1st entry is the 1st exit when the buffer is full in order to be able to accept new ones. It is not possible to reset the buffer.



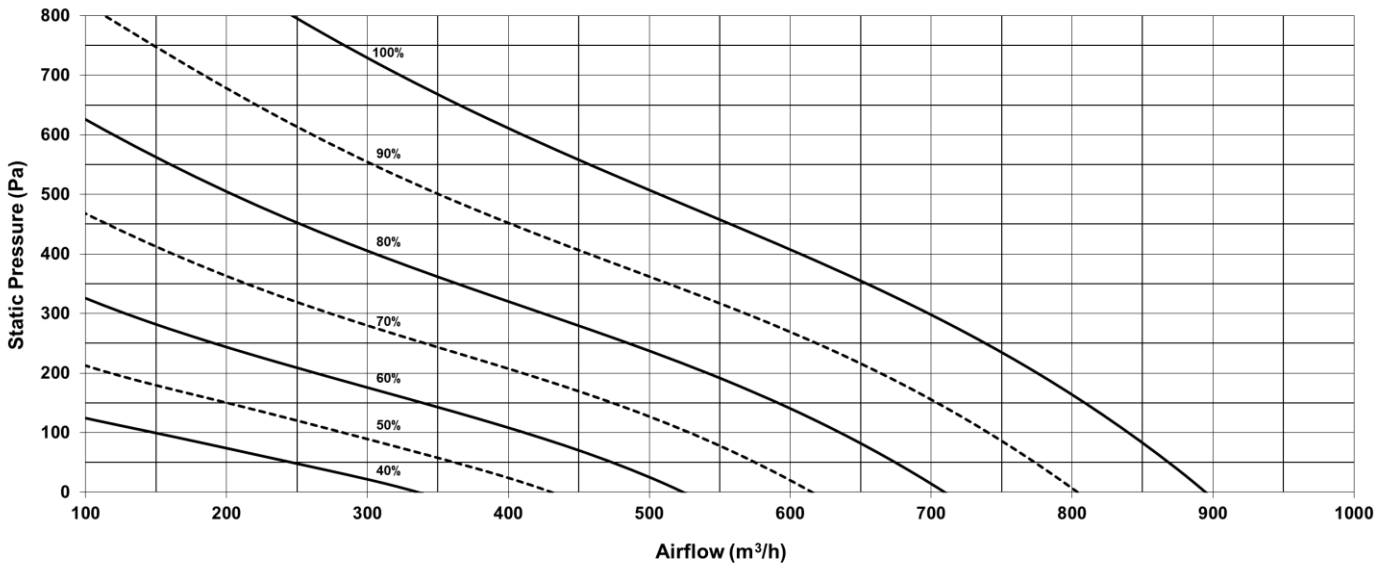
## XX. AERAULIC PERFORMANCES

### XX.1. EVENTYS 508 BE / BC ECO

EVENTYS 508 BE

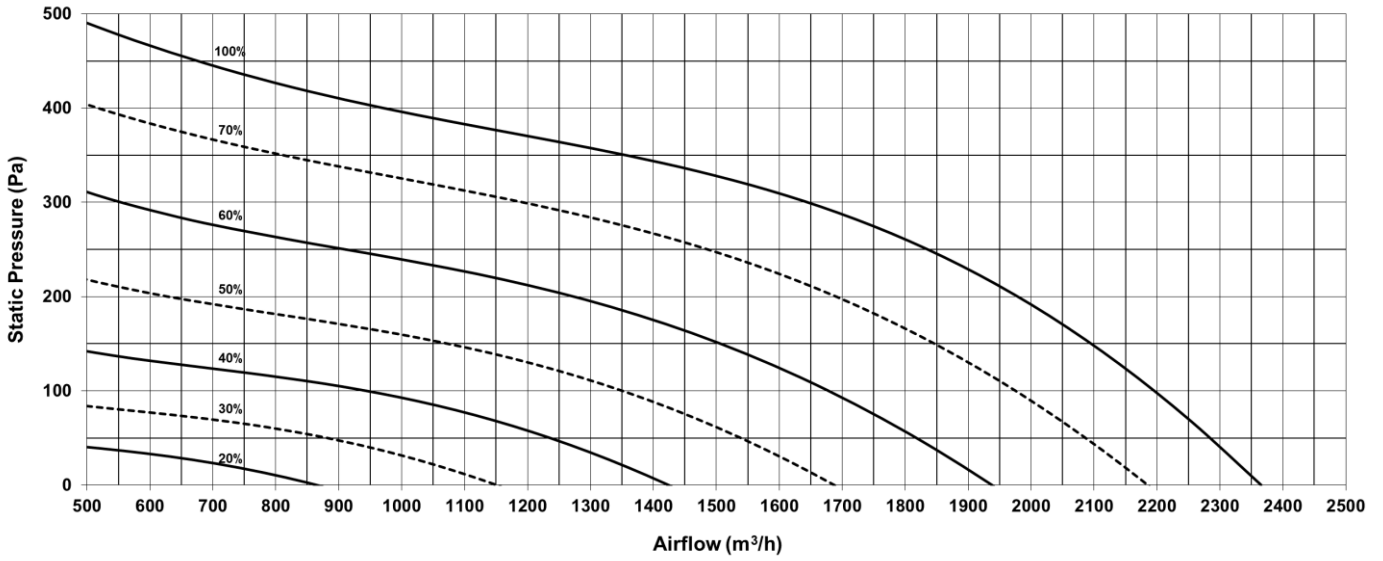


EVENTYS 508 BC

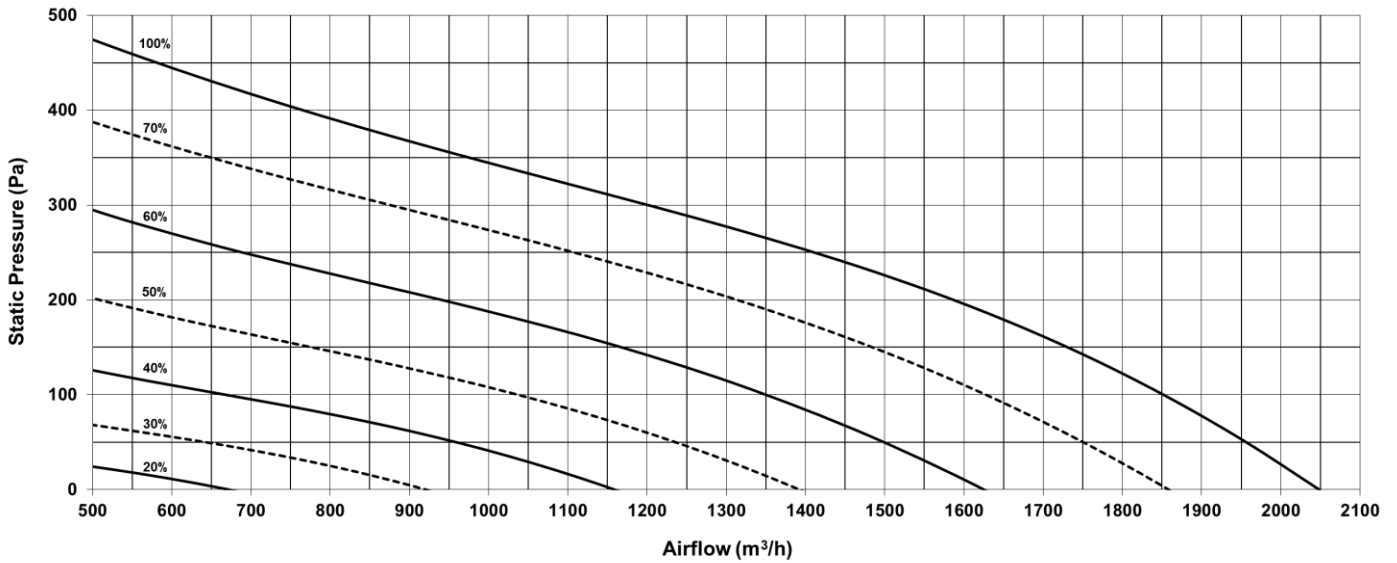


## XX.2. EVENTYS 520 BE / BC ECO

EVENTYS 520 BE

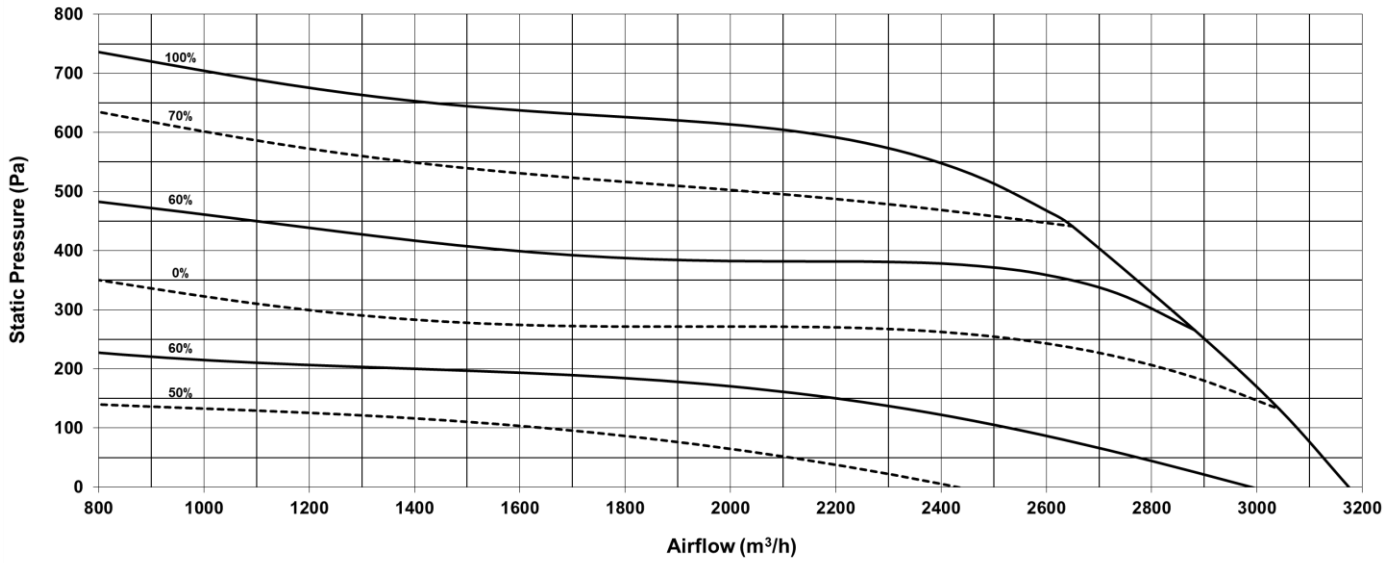


EVENTYS 520 BC

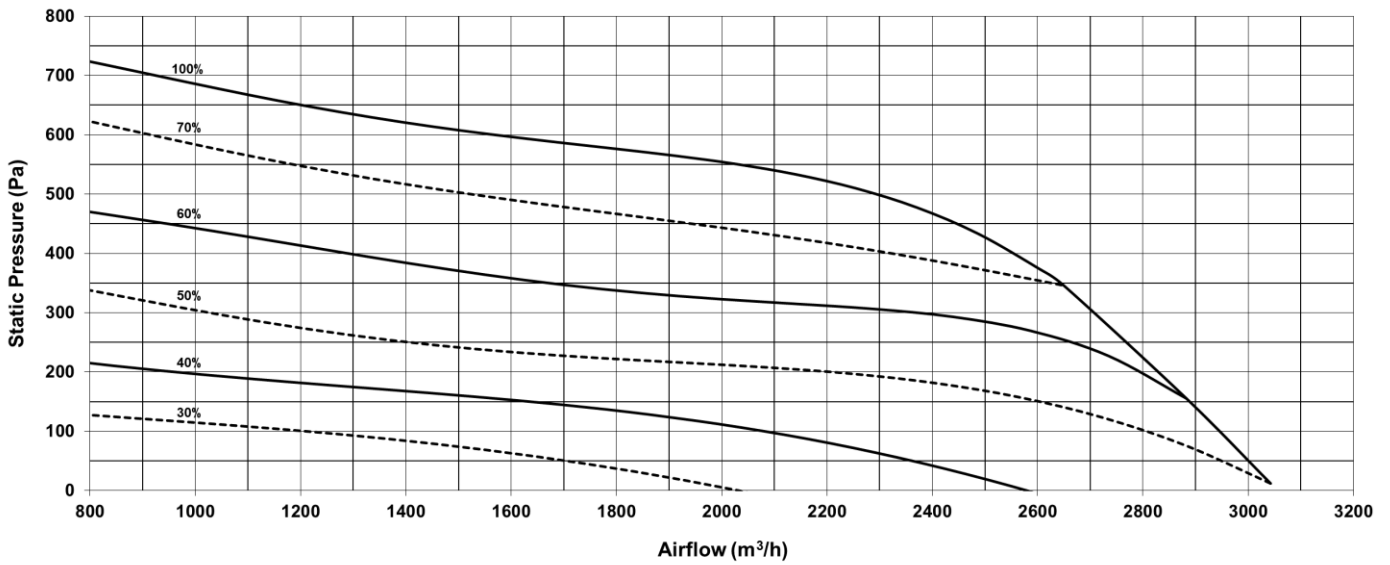


## XX.3. EVENTYS 530 BE / BC ECO

EVENTYS 530 BE

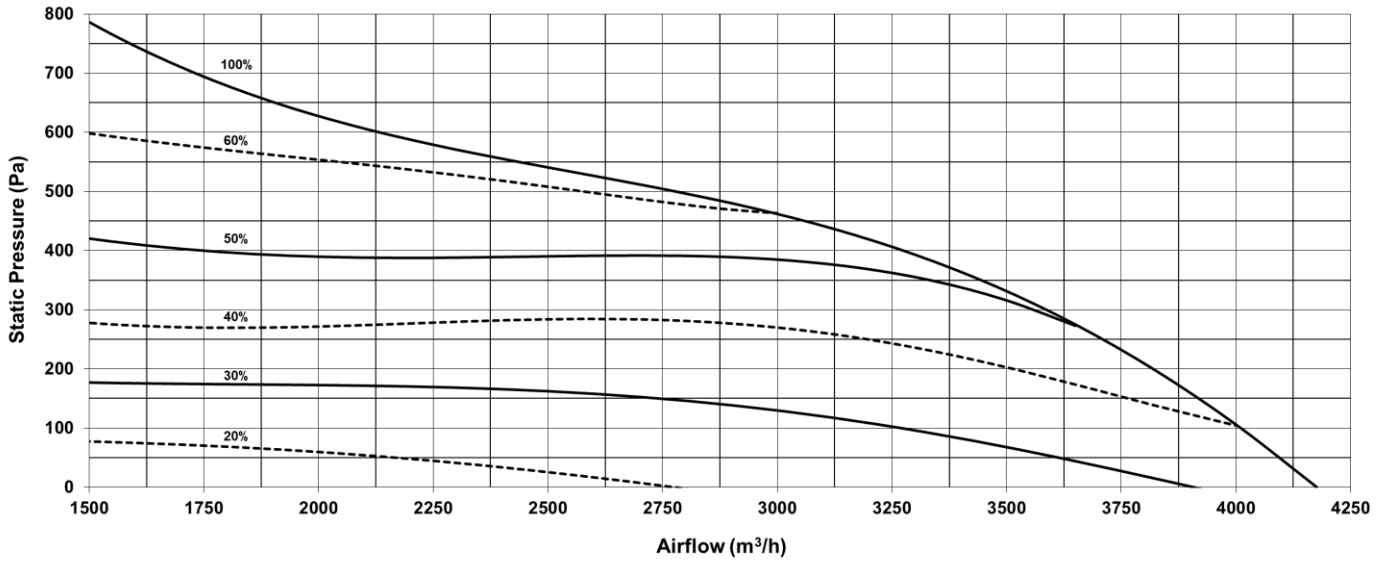


EVENTYS 530 BC

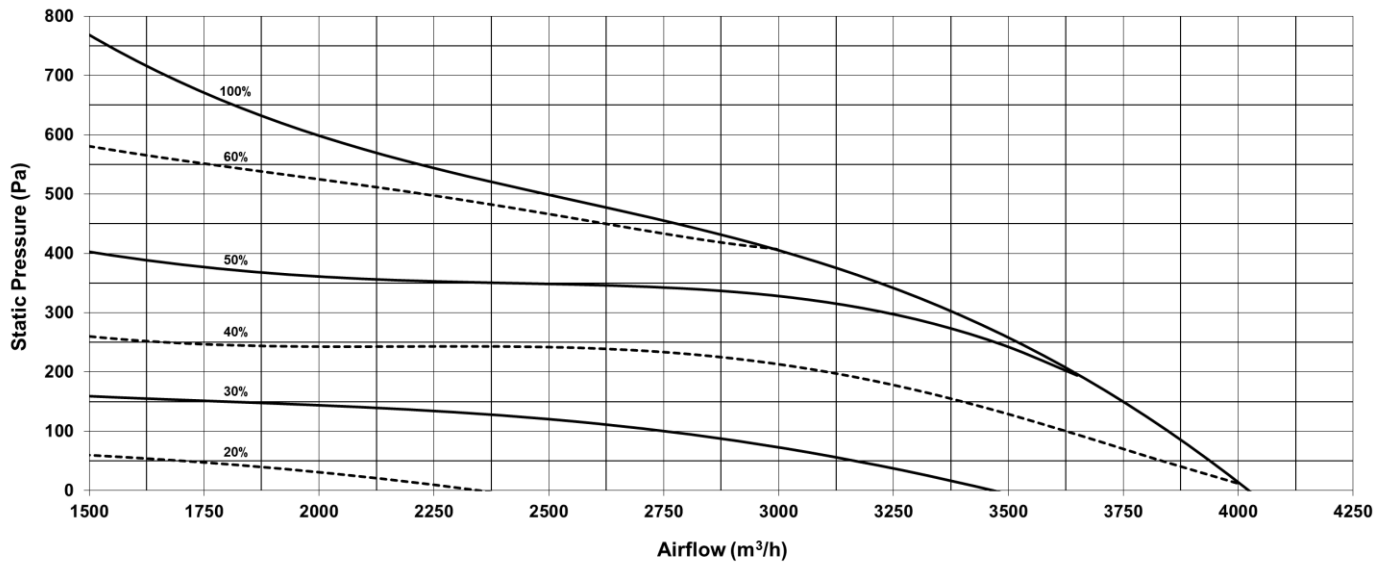


## XX.4. EVENTYS 540 BE / BC ECO

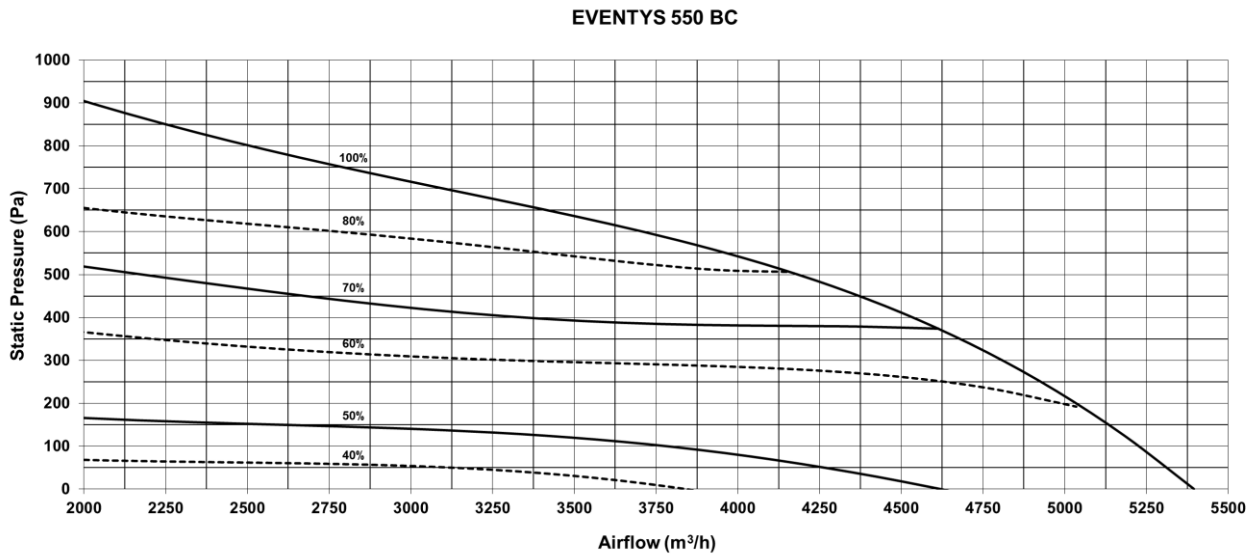
EVENTYS 540 BE



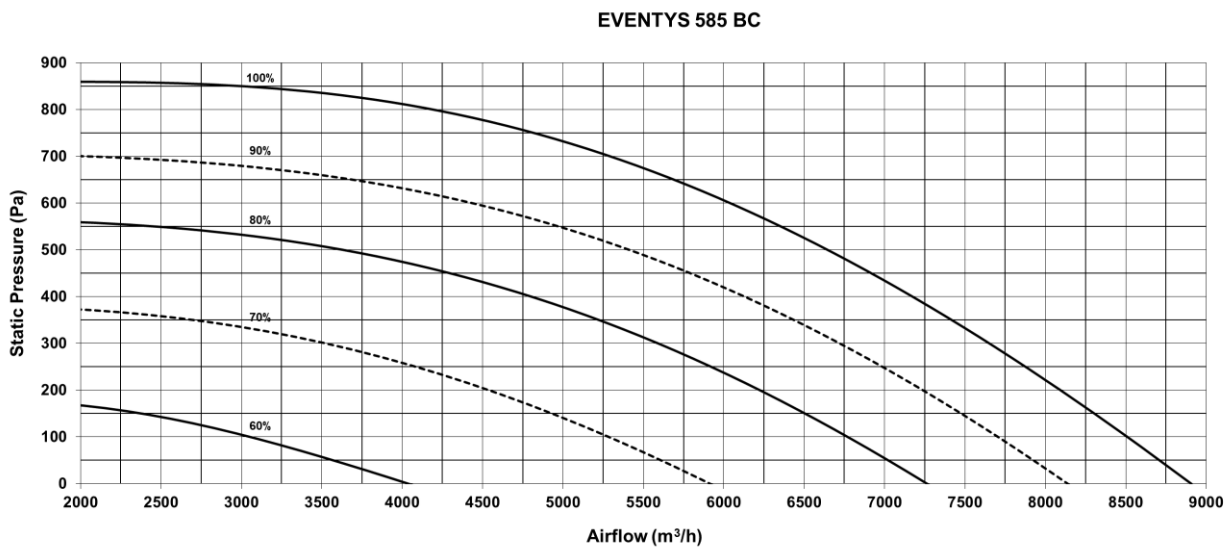
EVENTYS 540 BC



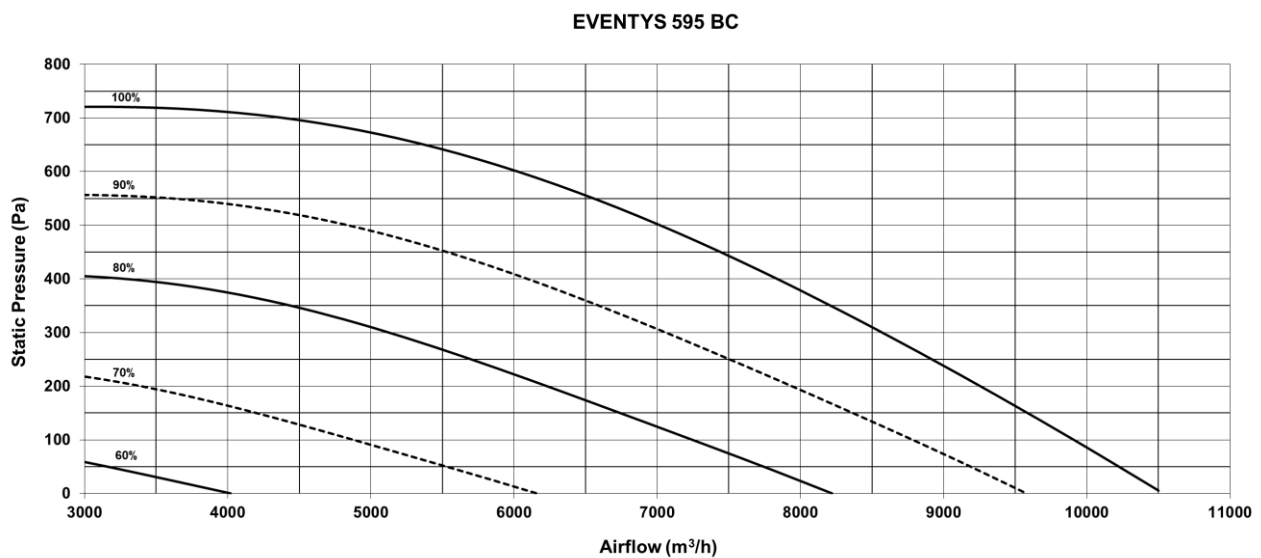
## XX.5. EVENTYS 550 BC ECO



## XX.6. EVENTYS 585 BC ECO



## XX.7. EVENTYS 595 BC ECO



## XXI. DATA EXCHANGE TABLES

The Modbus addresses shown in the tables use the generic Modbus standard. There is no address offset to be expected, the 1st existing variable is addressed to the value 0 (not 1).

Scaling factor = 10 means that the value read must be divided by 10 to be converted to a real value. Example: If the value read in the variable supply air temperature is 230, this means that the temperature value is  $230 / 10 = 23.0^{\circ}\text{C}$ .

It is not possible to acknowledge alarms via communication. Acknowledgement must be done manually in the presence of a physical person directly on the machine's HMI after having identified and resolved the cause of the problem.

The setpoints sent by the communication have priority over all the other instructions (external and internal) except for the on/off command of the screen which has absolute priority: if the local command is off, the central unit cannot start even if the BMS requests it. Therefore, in order for the BMS to work, the control must be on.

Specificity of Bacnet: the list of variables is linked to the configuration of the unit. For example, if the temperature control is in constant supply, the air law variables are not accessible. If the unit is in pressure regulation (LOBBY), the flow variables (MAC2) are not accessible.

### XXI.1. Machine status (read only)

	Unit	Read	Write	Modbus Scale Factor	Modbus Register type	Modbus Address	Modbus Variable	BACnet Address	Détails
Current unit status		X		1	Input Register	3	short	MSV, 40003	<b>Modbus</b> : 0=stop / 1=startup / 2=low speed startup / 4=high speed startup / 5=normal operation / 8=CO2 management / 9=Night cooling / 11=stop down <b>BACnet</b> : 1=stop / 2=startup / 3=low speed startup / 5=high speed startup / 6=normal operation / 9=CO2 management / 10=Night cooling / 12=stop down
Total fan running time	h	X		1	Input Register	4	short	AV, 40004	
Fresh (outdoor) air temperature	°C	X		10	Input Register	1	short	AV, 40001	
Supply air temperature	°C	X		10	Input Register	7	short	AV, 40007	
Actual temperature setpoint	°C	X		10	Input Register	8	short	AV, 40008	Extract or supply temperature (cst or with out. Compensation) according to temperature control mode
Extract air temperature	°C	X		10	Input Register	9	short	AV, 40009	If temperature sensor wired and set in the controller
Heating analog output	V	X		10	Input Register	55	short	AV, 40119	If presence of heating coil : 0V (no need for heating) ; 10V (maximum heating requirement)
Supply air fan speed analog output	V	X		10	Input Register	54	short	AV, 40122	0V (fan stopped) ; 10V (maximum fan speed)

## XXI.2. Setpoint settings (read/write)

	Unit	Read	Write	Modbus Scale Factor	Modbus Factory value	Modbus Register type	Modbus Address	Modbus Variable	BACnet Address	Details
Operating mode setpoint	-	X	X	1	<b>Modbus : 3</b> <b>Bacnet : 4</b>	Holding Register	368	short	MSV, 30368	<b>Modbus :</b> 0=stop 1=low speed 2=high speed 3=auto <b>BACnet :</b> 1=stop 2=low speed 3=high speed 4=auto
Supply constant air temperature setpoint	°C	X	X	10	180	Holding Register	1	short	AV, 30001	Only for supply constant air temperature control
Extract constant air temperature setpoint	°C	X	X	10	210	Holding Register	18	short	AV, 30018	Only for extract constant air temperature control
Temperature setpoint at outdoor temp.=−20°C	°C	X	X	10	250	Holding Register	10	short	AV, 30010	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=−15°C	°C	X	X	10	240	Holding Register	11	short	AV, 30011	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=−10°C	°C	X	X	10	230	Holding Register	12	short	AV, 30012	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=−5°C	°C	X	X	10	230	Holding Register	13	short	AV, 30013	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=0°C	°C	X	X	10	220	Holding Register	14	short	AV, 30014	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=+5°C	°C	X	X	10	200	Holding Register	15	short	AV, 30015	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=+10°C	°C	X	X	10	180	Holding Register	16	short	AV, 30016	Only for (supply or extract) air temperature control on outdoor temperature
Temperature setpoint at outdoor temp.=+15°C	°C	X	X	10	180	Holding Register	17	short	AV, 30017	Only for (supply or extract) air temperature control on outdoor temperature
Supply air fan high speed setpoint	%	X	X	10	700	Holding Register	424	short	AV, 30424	
Supply air fan low speed setpoint	%	X	X	10	500	Holding Register	425	short	AV, 30425	

## XXI.3. Alarms status (read only)

	Read	Write	Modbus Register Type	Modbus Address	Modbus Variable	BACnet Address	Details
Alarm presence	X		Input Status	30	bool	BV, 20030	0=no alarm / 1=at least one alarm is present
Supply air fan fault	X		Input Status	33	bool	BV, 20033	0=no alarm / 1=alarm presence
Filters fault	X		Input Status	38	bool	BV, 20038	0=no alarm / 1=alarm presence
Internal battery fault	X		Input Status	80	bool	BV, 20080	0=no alarm / 1=alarm presence
Electrical heating coil overheating	X		Input Status	55	bool	BV, 20055	0=no alarm / 1=alarm presence Only for units with electrical heating coil
hot water heating coil frost protection	X		Input Status	40	bool	BV, 20040	0=no alarm / 1=alarm presence Only for units with hot water heating coil
Fire mode active	X		Input Status	42	bool	BV, 20042	0=no alarm / 1=alarm presence

It is not possible to acknowledge alarms (class A and B) via communication.

## XXII. DIAGRAMS FOR KITCHEN SOLUTIONS

### XXII.1. Single speed

The system is composed of 5 distinct devices:

- 1 single speed air extraction device (CALADAIR REFLEX or DIABLO range) which ensures the air extraction of the room or the building. This device is equipped with a relay box such as AIRONTROL or CONTROLVENT TRI for the management of smoke extraction and the gas solenoid valve. The start-up and shutdown of this device is managed by the air extraction device (EVENTYS) via the dry contact (11)-(14) of the K2 relay. The smoke extraction function is activated regarding the state of the contact (3)-(4) of the trigger box.
- 1 induction single speed device (CALADAIR MAXIPLUS or MINIMAX range) which supplies the room or the building with fresh air. The start-up and shutdown of this device is managed by the compensation device (EVENTYS) via the dry contact (21)-(24) of the K2 relay which manages the power supply via a contactor (not provided).
- 1 Trigger box (BD):
  - In the event of switching, the compensation (EVENTYS) and induction devices are switched off and the extraction device is forced to run in smoke extraction.
- 1 remote switch (CDC1V2) for high-speed (HS) forced operation. The contact is a NO (normally open) type.
- 1 compensation device (EVENTYS) running in on-off via the high-speed (HS) remote order. The corresponding fan speed (and thus the airflow) is the one set into the controller (normal speed setpoint), see XIII.5 Setting the ventilation setpoints.

Electrical wiring (control part):

- Connect the components according to the wiring diagram below (dotted wires).

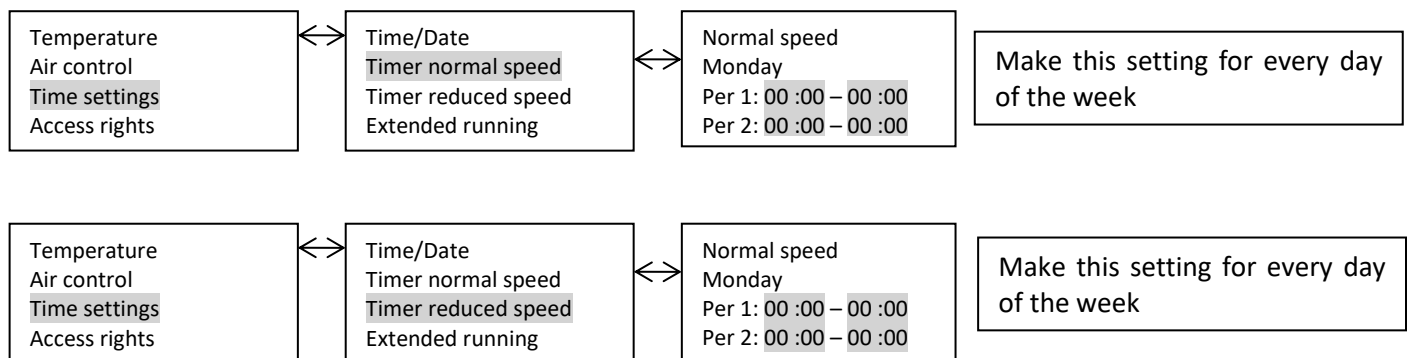
For the wiring of the power supply, especially for relay box, refer to the installation manual of each device.

EVENTYS settings:

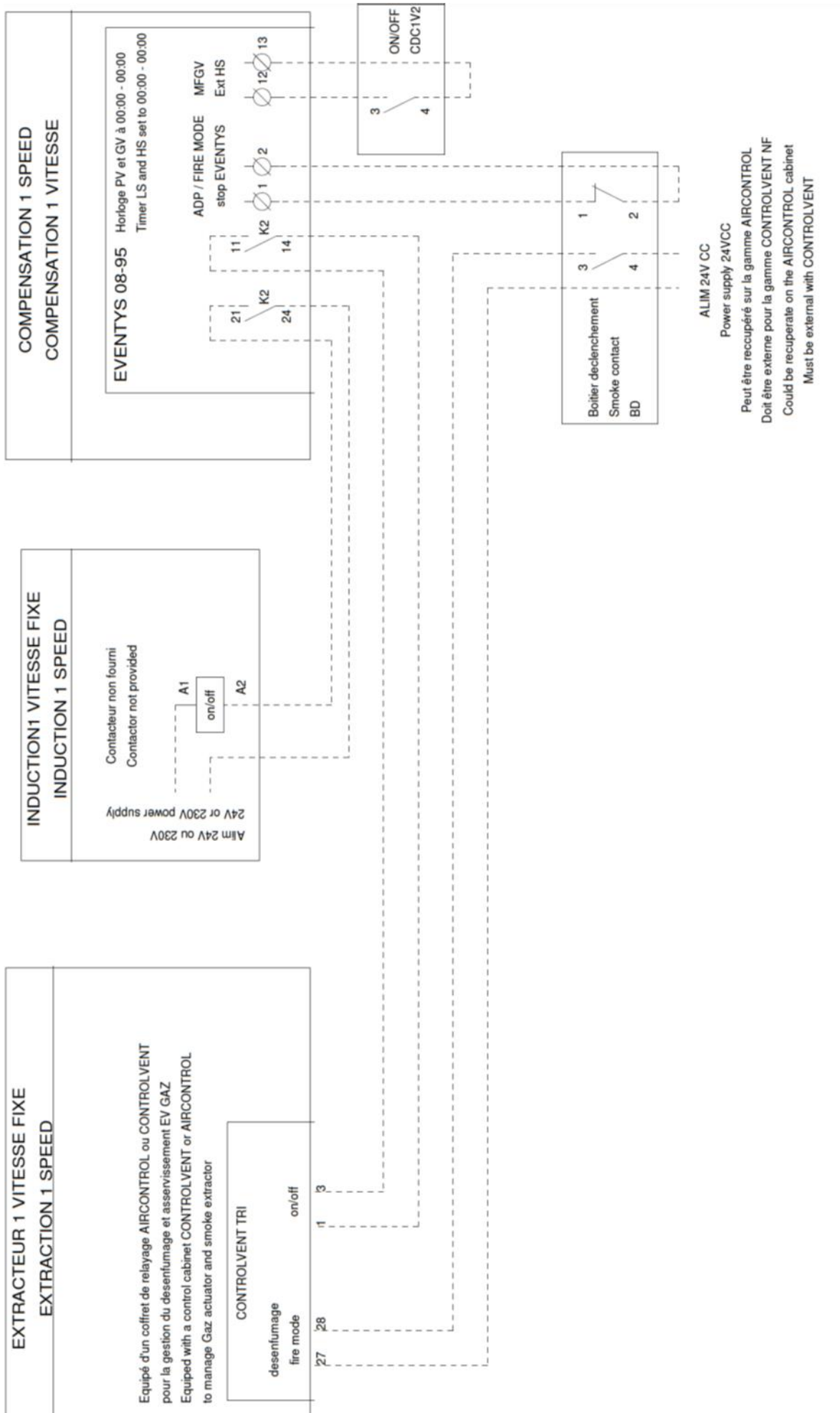
- All Low-speed (LS) and High-speed (HS) operation time slots must be disabled (corresponding setting = 00:00 – 00:00) so that operation only depend on high-speed remote switch.
- Set the fan speed setpoint (factory set = 70%) according to the desired operating point to maintain a correct air compensation. Do not go below a setpoint of 30%. See XIII.5 Setting the ventilation setpoints.

Minimum access level	Operator (see XIII.1)
----------------------	-----------------------

Path:







Peut être récupéré sur la gamme AIRCONTROL  
 Doit être externe pour la gamme CONTROLVENT NF  
 Could be recuperate on the AIRCONTROL cabinet  
 Must be external with CONTROLVENT

## XXII.2. 0-10V variable speed

The system is composed of 4 distinct devices:

- 1 variable speed air extraction device (CALADAIR REFLEX or DIABLO range featured with a CVFT type variable speed drive) which ensures the air extraction from the room or the building. This air extraction device is equipped with a relay box such as a AIRCONTROL or CONTROLVENT TRI CV for the management of smoke extraction or gas solenoid valve. The start-up and shutdown of this device is managed by the compensation device (EVENTYS) via the dry contact (11)-(14) of the K2 relay. The corresponding fan speed depends on the 3-10V signal sent by the POT230 potentiometer depending on the position of the rotary knob. The smoke extraction function is activated depending on the contact status (3)-(4) of the trigger box (BD).
- 1 trigger box (BD):
  - In the event of switching, the compensation device (EVENTYS) is switched off and the extraction device is forced to run in smoke extraction (direct power supply without going through the variable speed drive CVFT).
- 1 0-10V potentiometer with rotary knob (POT230) equipped with a dry contact which closes as soon as the potentiometer is no longer in position 0. The minimum output voltage of the potentiometer is adjustable. It is set to 0V at the factory and must be adjusted to 3V in this configuration to ensure a minimum rotation speed of the fan, especially when shut-off is requested (potentiometer in position 0 = off). If this adjustment is not carried out, it can result in malfunctions and overheating of the electric heater (BE) that equips the EVENTYS.
- 1 air compensation device (EVENTYS) running in variable speed. The corresponding fan speed depends on the 3-10V signal value sent by the POT230 depending on the position of the rotary knob.

Electrical wiring (control part):

- First, disconnect the 2 speed signal wires which come from the fan and are connected to terminals (14) and (15). Terminals (14) and (15) remain unused thereafter.
- Then connect the components according to the electrical diagram below (dotted wires).

Refer to the installation manual of each device for the wiring of the power part, especially for the relay box.

Setting the EVENTYS:

- All Low-speed (LS) and High-speed (HS) operation time slots must be disabled (corresponding setting = 00:00 – 00:00) so that operation only depend on the position of the POT230 potentiometer.



Set the minimum output voltage of the potentiometer to 3V when the rotary knob is in 0 position (= off) to ensure the post-ventilation function of the EVENTYS and avoid any overheating of the electric heater when shutdown.

**EXTRACTEUR VITESSE VARIABLE par variateur**  
**EXTRACTION VARIABLE by speed controller**

Equipé d'un coffret de relaiage AIRCONTROL ou CONTROLVENT pour la gestion du désenfumage et asservissement EV GAZ  
 Equiped with a control cabinet CONTROLVENT or AIRCONTROL to manage Gaz actuator and smoke extractor

**CONTROLVENT (TRI-CV)** on/off

désenfumage fire mode

Speed controller  
 Variateur

3/10V  
 0V

27 28 1 2

**COMPENSATION VITESSE VARIABLE par moteur EC**  
**VARIABLE COMPENSATION by EC motor**

EVENTYS 08-95

horloge PV et GV à 00:00 - 00:00  
 Timer LS and HS set to 00:00 - 00:00

VENTILATEUR EVENTYS  
 EVENTYS FAN

3/10V  
 0V

(2) connecteur rapide non fourni  
 (2) quick connector not supplied

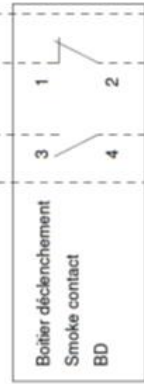
15 \*  
 14 \*

ADP / FIRE MODE  
 11 stop EVENTYS

MFGV  
 Ext HS

K2 1 2  
 14 12 13

21 K2 24



ALIM 24V CC  
 Power supply 24VCC

Peut être récupéré sur la gamme AIRCONTROL  
 Doit être externe pour la gamme CONTROLVENT NF  
 Could be recuperate on the AIRCONTROL cabinet  
 Must be external with CONTROLVENT



(1) réglage mini >3V / mini setpoint >3V

- \* Déconnecter les câbles venant du ventilateur et brancher sur les bornes 14-15.  
 Brancher sur ces fils le signal 3-10 venant du POT230  
 Disconnect the cables coming from the fan and connected to terminals 14-15.  
 Connect to these wires the signal 3-10 coming from POT230

ALIM  
 230V  
 power supply

## XXIII. COMMISSIONING REPORT

Site			
Address			
Date	...../...../.....	Technician / company	
Unit			
Manufacturing number			

Ventilation setting	Normal speed setpoint	Reduced speed setpoint
	.....%	.....%

Temperature setting	Constant supply air temperature	Supply air temperature law	Constant extract air temperature	Extract air temperature law
Setpoints	.....°C	<u>Outd. temp:</u> -20.0°C -15.0°C -10.0°C -5.0°C 0.0°C 5.0°C 10.0°C 15.0°C	.....°C	<u>Out.Temp:</u> -20.0°C -15.0°C -10.0°C -5.0°C 0.0°C 5.0°C 10.0°C 15.0°C
		<u>Setpoint</u>		<u>Setpoint</u>

Time schedule	Red. speed	Mo	Tu	We	Th	Fr	Sat	Sun	Holidays
	Period 1	:	:	:	:	:	:	:	:
	Period 2	:	:	:	:	:	:	:	:
	Norm. speed	Mo	Tu	We	Th	Fr	Sat	Sun	Holidays
	Period 1	:	:	:	:	:	:	:	:
	Period 2	:	:	:	:	:	:	:	:

Presence of BMS	YES	NO	Backup of user settings	YES	NO
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# EVENTYS™ 508-595

Date	Stakeholder	Comments



Date	Stakeholder	Comments