

OPERATING AND COMMISSIONING INSTRUCTIONS



OPERATING AND COMMISSIONING INSTRUCTIONS

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OPERATING AND COMMISSIONING INSTRUCTIONS

SAFETY INSTRUCTIONS

In compliance with the current norms, the machine should be installed only by a technical person qualified for this type of work.

Use the required personal protection devices so as to avoid injuries caused by electrical and mechanical hazards (injuries by touching panels, sharp edges, etc.). Use EN170 protective eyewear and ear protection.

Do not use the unit for an other use which it designed. This unit can't be use for extract or supply dangerous air.

Move the machine as given in chapter *handling*.

Grounding is carried out in compliance with current standards. Never start the device without grounding

Before any intervention ensure that device is powered off and wait for complete stop of every rotative component such as damper, fan, rotative exchanger...

During device is running inspection doors must be mounted and closed.

Start is to be done only with padlockable swith.

Do not shut off or short circuit the safety and control equipment.

During interventions, be carefull with hot components such as hot water coil or electric resistances.

The machine should be installed in compliance with fire norms.

The waste must be disposed of in compliance with the current standards. No packaging should be discarded into the environment.

We disclaim any responsibility for any damages resulting from wrong utilisation of the equipment, reparation, modification or non compliance of these instructions.

I. RECEIVING THE EQUIPMENT

The units are delivered fixed on longitudinal members or on blocks then wrapped in plastic film.

I.1. Checks on reception

When the equipment is received, the state of the packaging and the equipment must be checked. In the event of damage, make an accurate note of any problems on the carrier's delivery note

I.2. Unpacking

When the equipment is unpacked, check the following:

- The total number of packages is present.
- All accessories are present (dampers, roof, electric switchgear, etc.). After unpacking the equipment, the waste must be disposed of in compliance with the current standards.
- No packaging should be discarded into the environment

I.3. Storing

The equipment must be stored in shade, in a dry place, at a temperature between -20°C and 40°C. The packaging can't be considered sufficient for an external storage.

I.3.a. End of life

In accordance with the partnerships with the company ECOLOGIC. CALADAIR fulfills the obligations to finance the collection, removal and treatment of Waste Electrical and Electronic Equipment.

At the end of the life of this equipment, the user contacts the company ECOLOGIC who will propose a collection solution or a place of deposit for the product.

Contacts for pick-up requests:

E-mail: operations-pro@ecologic-france.com

Phone: 01 30 57 79 14

OPERATING AND COMMISSIONING INSTRUCTIONS

Internet: www.e-dechet.com

II. INSTALLATION

II.1. Handling

The units must only be moved in their installation position.

If the device is handled using a fork-lift truck, ensure this supports the load-bearing structure.

If the device is moved using a crane, use four cables of identical lengths. These must be at least as long as the greatest distance between two fastening points.

II.1. Space required

In general, it is desirable to have an access space at least equal to the dimension B for maintenance.

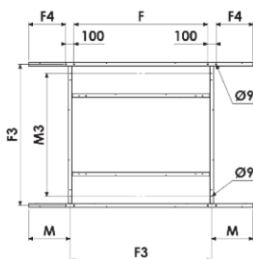
OPERATING AND COMMISSIONING INSTRUCTIONS

Côte (mm)	EXAECO®			
	10	13	17	22
A	2550	2690	2873	2873
A1	830	900	990	990
A2	1564	1704	1884	1884
B	1620	1820	2090	2285
C	2100	2250	2315	2510
D	1110	1310	1580	1770
E	706	806	806	906
E1	245	220	250	250
F	1510	1600	-	-
F1	566	636	726	726
F2	1300	1440	1620	1620
F3	1490	1690	1960	2155
F4	420	445	520	450
G	155	160	160	160
G1	460	500	550	550
G2	475	535	580	560
I	95	130	130	130
I2	60	60	100	90
J	1190	1260	1290	1400
J1	745	830	860	940
J2-1	1190	1290	1295	1380
J3-1	1490	1475	1530	1565
J2-2	1620	1590	1615	1630
J3-2	1890	1775	1830	1840
J2-3	-	1890	1925	1905
J3-3	-	2075	2160	2090
J2-4	-	-	-	2155
J3-4	-	-	-	2365
K	620	690	780	780
K1	320	395	525	525
M	530	500	455	372
M1	780	850	940	940
M2	1514	1654	1834	1834
M3	1275	1475	1745	1940
T*	1"1/4	1"1/2	2"	2"
T1*	2"	2"	2"	2"
T2**	1"1/8	7/8"	1"1/8	1"1/8
T3**	1"3/8	1"1/8	1"3/8	1"3/8

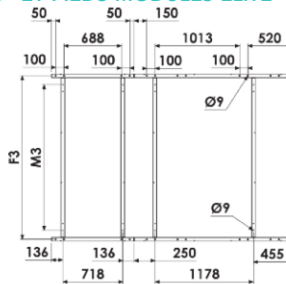
* Tube acier fileté pas gaz ** Tube cuivre

G-I-J-J1-T : BATTERIE À EAU CHAUDE (H)
 G1-I-J-J1-T1 : BATTERIE À EAU FROIDE (C-CO)
 G2-I2-T2-T3 : BATTERIE À DÉTENTE DIRECTE (DX-DXR)
 J2-1 ET J3-1 : CIRCUIT 1 BATTERIE À DÉTENTE DIRECTE (DX-DXR)
 J2-2 ET J3-2 : CIRCUIT 2 BATTERIE À DÉTENTE DIRECTE (DX-DXR)
 J2-3 ET J3-3 : CIRCUIT 3 BATTERIE À DÉTENTE DIRECTE (DX-DXR)
 J2-4 ET J3-4 : CIRCUIT 4 BATTERIE À DÉTENTE DIRECTE (DX-DXR)

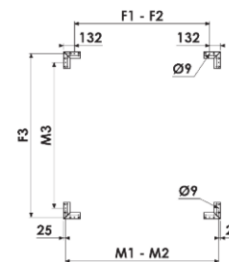
VUE DE DESSOUS CHÂSSIS EXAECO® ET PIEDS MODULES ELITE



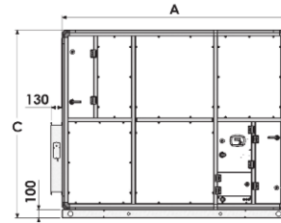
EXAECO® 10 et 13



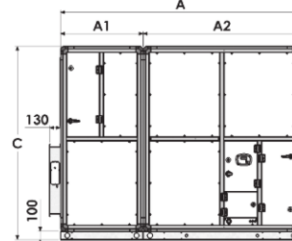
EXAECO® 17 et 22



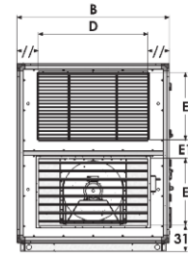
MODULE ELITE



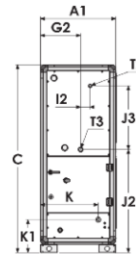
EXAECO®
10 et 13



EXAECO®
17 et 22



VUE CÔTÉ
EXAECO®



MODULE ELITE®

II.2. Setting up

The unit must be laid on a sufficiently rigid and flat surface (use vibration mounts if necessary). For the HVAC connection, select duct sections based on dimensions of the flexible bands that should be properly stretched the ducts should be insulated and the first accessories should be at 2.5 times the diameter (Tee elbow ...). Install the unit such that bad weather or ambient temperature cannot damage the internal items of the unit during installation as well as when used later

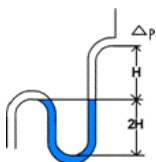
Provide a siphon on each condensate drainage pipe. A siphon can only be used for one drainage system.

Note: the siphon must be connected in accordance with Best Practices in order that the condensates are removed as efficiently as possible.

The height H must be at least equal to the maximum internal negative pressure of the unit (Dp in mm).

Example : Dp = 500 Pa @ 50 mm CE

⇒ H > 50 mm 2H > 100 mm



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The unit placed outside must always be fixed to the floor of the support frame, so that it can not move or fall (take into account the force of the wind). Also provide a roof (DPE) as well as awnings rain (AGE) if necessary (optional).

II.2.a. Connection of separate modules

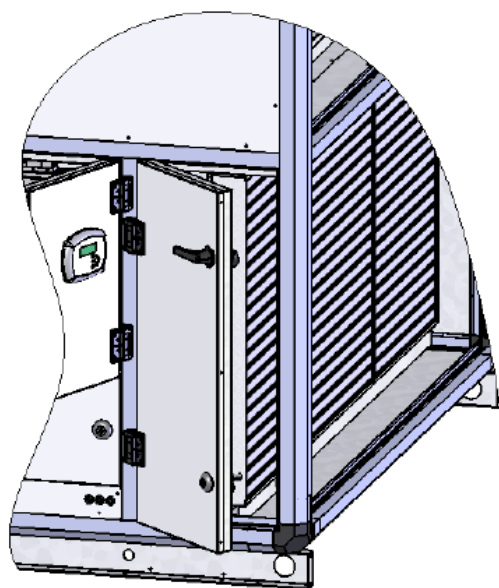
The connecting brackets between boxes are prefixed on each of the modules of EXAECO.

If necessary, wedge the boxes so that the amounts of these are perfectly parallel.

Bring the modules together and secure them by tightening the bolts (provided) with the mounting brackets (M6 x 16). Also tighten the M8 X30 bolt (supplied) on the chassis.



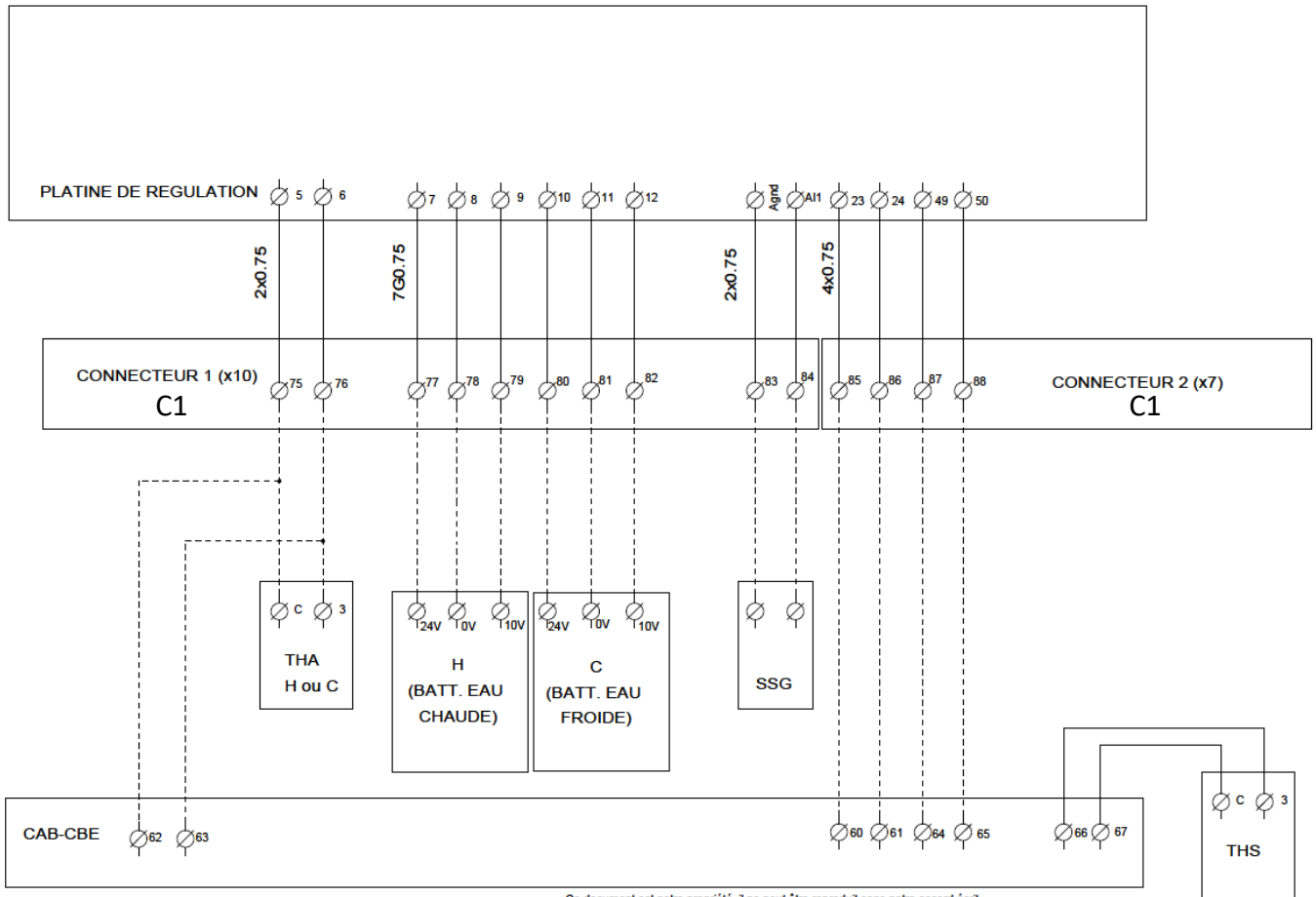
II.2.a.1. Climatic module (version ELITE) (Connector C1)



Connector C1

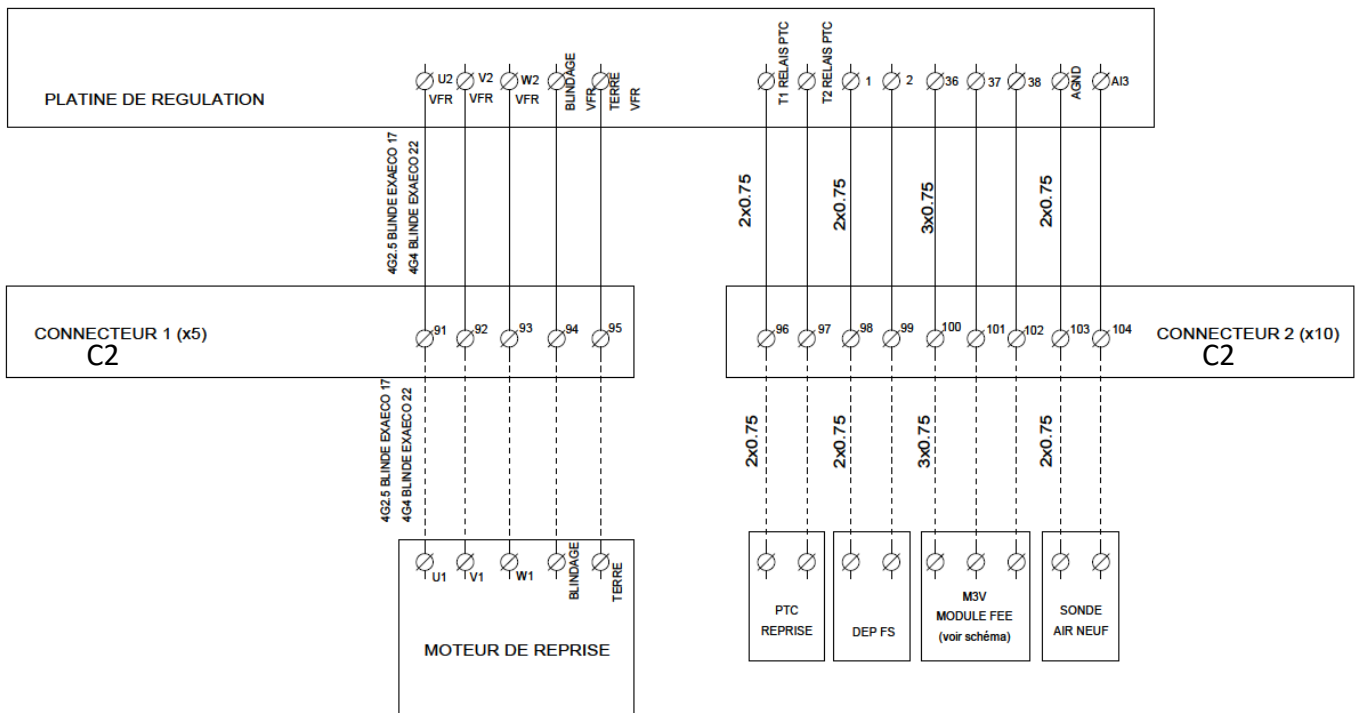
Connect the 2 quick connectors and the clear tube for the LOBBY versions.

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II.2.a.2. Principal module (EXAECO 17-22)



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III. GENERAL FONCTIONNING

III.1.GENERALITE

EXAECO® range are program of double-flow units with high efficiency recovery, self-regulating recovery meant for office and industrial installations. Its performance is greater than 80%.

EXAECO® ELITE: (example EXAECO ELITE HC) manage on or two coil **H** = Heat water coil / **E** = Electrical / **C-CO** = Cooling or changeover Coil / **HC** = Hot water coil + cooling water coil / **EC** = Electrical battery + cooling water coil / **HDX** = Hot water coil + DX coil R410A / **EDX** = Electrical + Cooling DX coil R410A / **DX-DXR** = Colling DX coil or changeover DX coil R410A.

The EXAECO® standard allows the management of the blowing temperature with external compensation below 13 ° C (air law) and depending on the recovery above 13 ° C.

III.1.FUNCTIONAL ANALYSIS

Except SEASON version

Starting sequence:

- The supply air fan starts and the fresh air register opens.
- The extract air fan starts and the extract air register opens
- Temperature regulation starts defined in the regulation mode set. Electric heater (if set), starts with airflow controller. Pumps start.
- After a defined time, alarms management function is activated. Installation is in normal mode.

Start conditions:

Installation starts when one of these conditions are filled:

- Timer normal or reduced are activate
- Manual start is activated with controller
- One of the digital input for extended operation is activated.

Stop sequence:

Installation stops with following process:

- Deactivation of the alarm management function.
- Electric heater stops (if set).
- After a defined time (individually defined for each fan) fans are stopped.
- Supply and return air registers are closed.
- Signals toward actuator are reset and pumps closed

Stop conditions:

Installation stops when one these conditions are filled:

- Timers normal or reduced are not activated and digital input for extended operation is not activated.
- Digital Input for External stop is activated.
- Manual stop is activated with controller
- An alarm configured with stop function is activated. Installation will automatically start when alarm is reset.

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III.2. REGULATION MODE

III.2.a. ECO:

1 or 2 speeds adjustable « MODE VENTIL (%) »

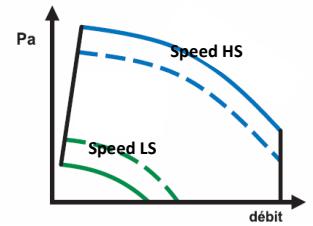
Adjustment of a minimum speed (LS - 1/2) and a maximum speed (HS - 1/1) in %.

Fitted with a factory turned clocked set

- (RECIRCULATION) from 05h00 to 07h00
- (HS - 1/1) from 07h00 to 22h00
- (LS - 1/2) from 00h00 to 05h00 and from 22h00 to 24h00

Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

Possibility of adding a remote forced stop (contacts dry NO) and a forced march recirculation (contacts dry NO)



III.2.b. DIVA®

Proportional ventilation between two airflows (LS/HS) with CO2 management

« AUTO CO2 MODE »

Adjustment of a minimum speed (LS - 1/2) and a maximum speed (HS - 1/1) in %

CO2's setpoint is set in factory to 1000ppm (compliant to French RT2012).

Variation between (LS - 1/2) and (HS - 1/1) is managed from CO2 level

(No modulation regarding the CO2 on the three ways dampers)

Fitted with a factory turned clocked set in (LS - 1/2). (Recirculation from 05h00 to 07h00)

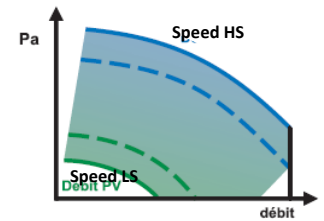
Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

Possibility of adding a remote forced stop (contacts dry NO) and a forced march recirculation (contacts dry NO)

Note: In order for the CO2 regulation works, installation must follow these constraints:



- Clock (HS - 1/1) is not activated (normal speed timer)
- Clock (LS - 1/2) is activated (reduced speed Timer)
- External operation (HS - 1/1) and external stop are not activated.



III.2.c. LOBBY®:

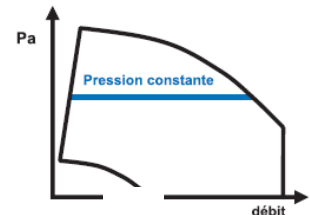
Constant pressure ventilation. (Pa) « CONSTANT PA MODE »

Constant pressure adjustment (Pa).

Fitted with a factory turned clocked set in (LS - 1/2) from 00h00 to 24h00.

Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

Possibility of adding a remote forced stop (contacts dry NO) and a forced march recirculation (contacts dry NO)



III.2.d. MAC2®:

1 or 2 constant air flow (m³/h) adjustable « MODE CONSTANT M3/H »

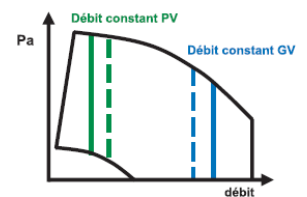
Adjustment of a minimum constant air flow (LS - 1/2) and a maximum air flow (HS - 1/1) in m3/h

Equipped with a clock set from factory in:

- (RECIRCULATION) de 05h00 à 07h00
- (GV - 1/1) de 07h00 à 22h00
- (PV - 1/2) de 00h00 à 05h00 et de 22h00 à 24h00

Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

Possibility of adding a remote forced stop (contacts dry NO) and a forced march recirculation (contacts dry NO)



III.2.e. QUATTRO® :

1 or 2 constant air flow (m³/h) adjustable « MODE CONSTANT M3/H » with CO2 management

Adjustment of a minimum constant air flow (LS - 1/2) and a maximum air flow (HS - 1/1) in m3/h

CO2's setpoint is set in factory to 1000ppm (compliant to French RT2012).

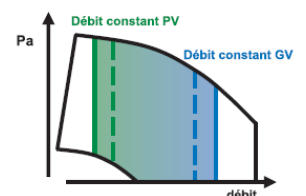
Variation between (LS - 1/2) and (HS - 1/1) is managed from CO2 level

(No modulation regarding the CO2 on the three way dampers)

Fitted with a factory turned clocked set in (LS - 1/2) from 00h00 to 24h00.

Possibility of adding a remote forced start (LS - 1/2) (free voltage contact NO)

Possibility of adding a remote forced stop (contacts dry NO) and a forced march recirculation (contacts dry NO)



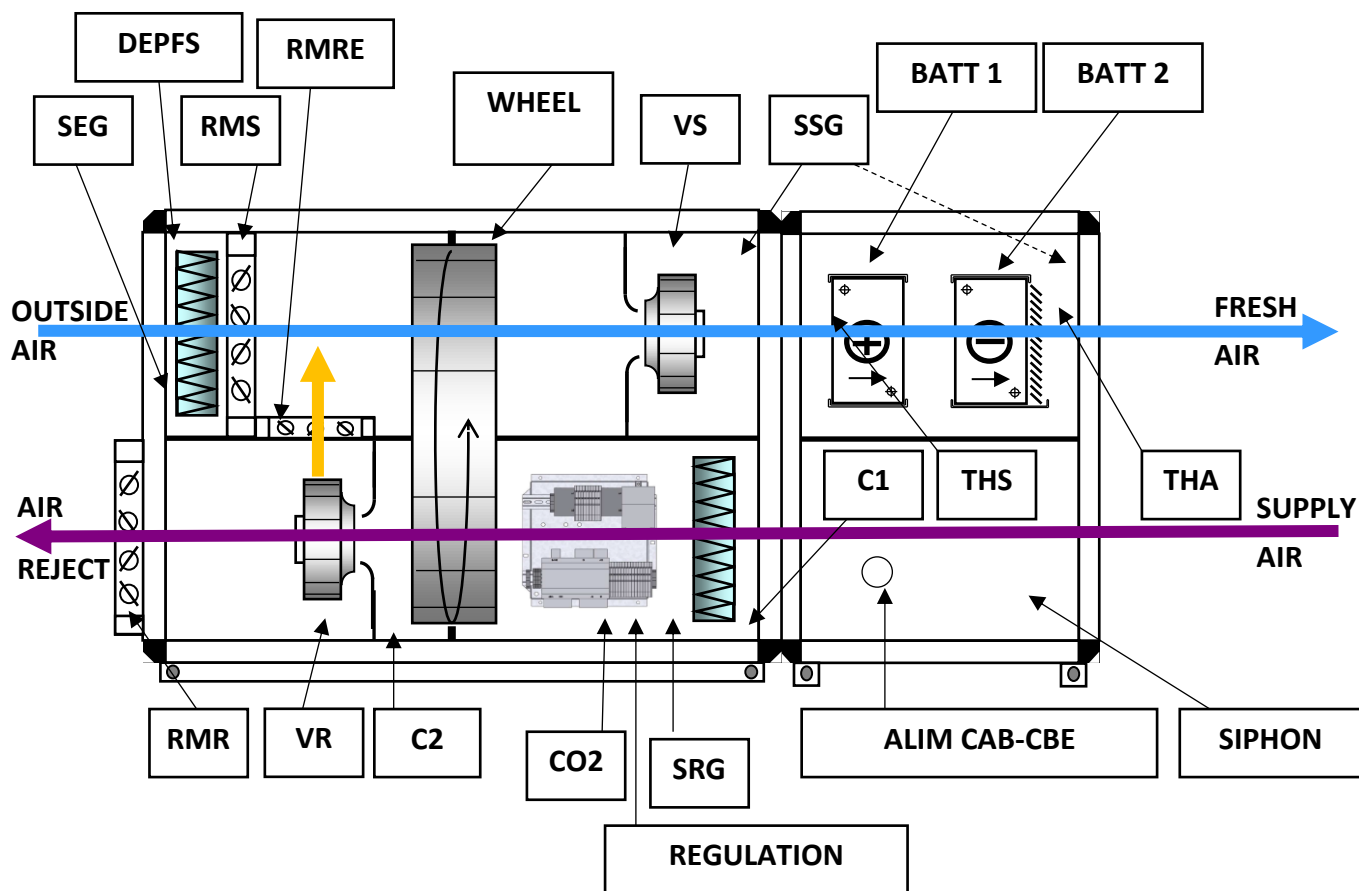
Note: In order for the CO2 regulation works, installation must follow these constraints:



- Clock (HS - 1/1) is not activated (normal speed timer)
- Clock (LS - 1/2) is activated (reduced speed Timer)
- External operation (HS - 1/1) and external stop are not activated.

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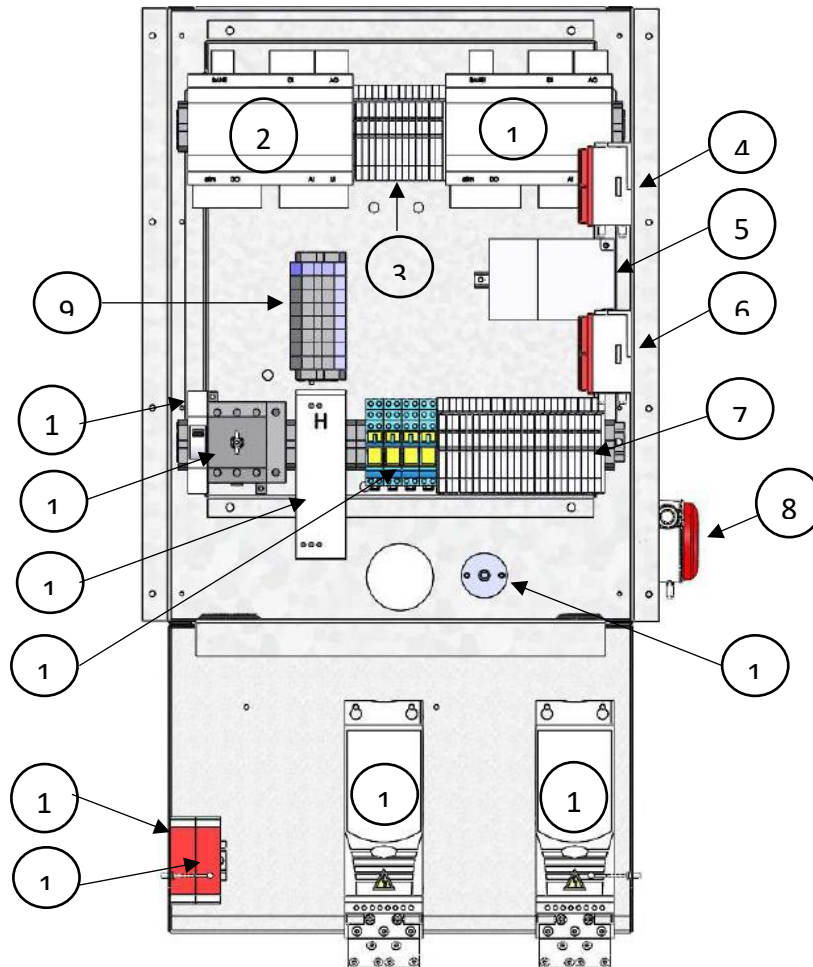
III.3.COMPOSITION



Name	Details
RMR/RMS/RMRE	Extract damper / Supply damper / Recirculation damper
VR	Extract air fan
C2	Connector to connect modules of EXAECO 17 and 22
CO2	CO2 sensor
REGULATION	Control cabinet
SRG	Extract temperature sensor
C1	Connector to connect module module ELITE
THA	External frost guard thermostat (version ELITE H)
THS	Overheat security switch (version ELITE E)
SSG	Supply temperature sensor
VS	Supply air fan
ROUE	Rotative exchanger
DEPFS	Filter pressure switch
SEG	Outdoor temperature sensor

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III.4. ELEMENT IN CONTROL CABINET



Name	Details
1	CORRIGO E283W3 CLD (Master controller)
2	CORRIGO E283W3 CLD (Slave controller)
3	Terminal blocks (1 to 26)
4	DEPS (Supply pressure switch for version Standard and DIVA) or TRPS (Supply pressure transmitter for LOBBY, MAC2 et QUATTRO)
5	TRAFO Transformer 230/24V
6	DEPR (Extract pressure switch for version Standard and DIVA) or TRPS (Extract pressure transmitter for LOBBY, MAC2 et QUATTRO)
7	Terminal blocks (27 to 74)
8	DEP FR filter pressure switch
9	Terminal blocks (main supply)
10	Control breaker
11	Proximity security switch
12	VF ROUE frequency converter of rotative exchanger
13	Control relay R1 = AN + PURE / R2 = AR / R3 = ROUE / R4 = FEE
14	SRG Extract temperature air fan
15	Relay PTC S (relay for thermal security of supply air fan (except EXAECO 10)
16	Relay PTC R (relay for thermal security of extract air fan (except EXAECO 10)
17	VF S (frequency converter of supply air fan) (except EXAECO 10)
18	VF R (frequency converter of extract air fan) (except EXAECO 10)

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IV. ELECTRICAL WIRING

IV.1. POWER SUPPLY

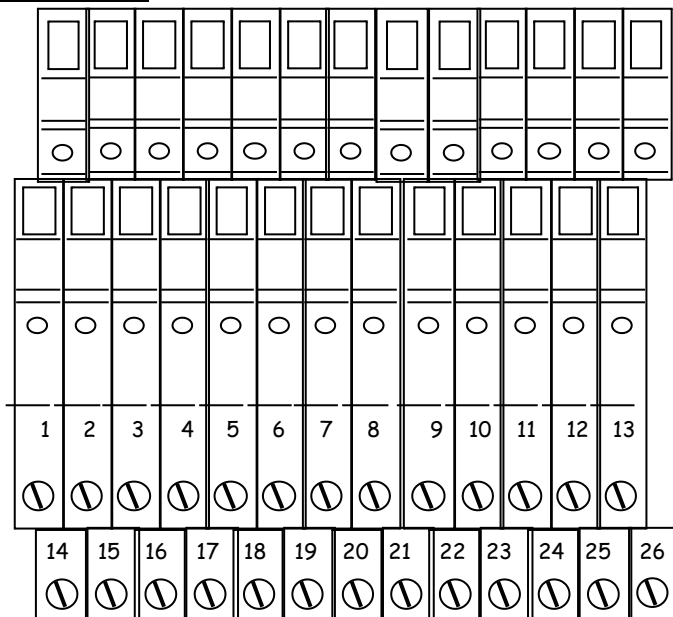
Modèle	Tension (V / Ph / Hz)	Puissance Moteur (kW)	Intensité (A)	Temp. Utilisation (°C /)	Indice de Protection protection thermique Classe *	ELITE Tension (V/Ph/Hz)	Chauffage électrique (E) Int. protection (A)
EXAECO 10	400 / 3+N / 50	2 x 3,3 kW	2 x 5,2 A	-20 / 40 °C	IP54 / F PTI	400 / 3+N / 50	36
EXAECO 13	400 / 3+N / 50	2 x 4 kW	2 x 8,2 A	-20 / 40 °C	IP55 / F PTC	400 / 3+N / 50	39
EXAECO 17	400 / 3+N / 50	2 x 7,5 Kw	2 x 14,8 A	-20 / 40 °C	IP55 / F PTC	400 / 3+N / 50	52
EXAECO 22	400 / 3+N / 50	2 x 11 kW	2 x 23,2 A	-20 / 40 °C	IP55 / F PTC	400 / 3+N / 50	61

IV.2. TEMPERATURE SENSOR WIRING

Temperature sensors are connected on the controller

- **SSG**: Supply temperature sensor on terminal blocks 9 and 10 of the connector placed between EXAECO and the ELITE module
- **SEG**: Outdoor temperature sensor on Agnd(30) and AI2(32) (slave)
- **SRG**: Extract temperature sensor on Agnd(33) and AI3 (34) (slave)

IV.3. TERMINAL BLOCKS

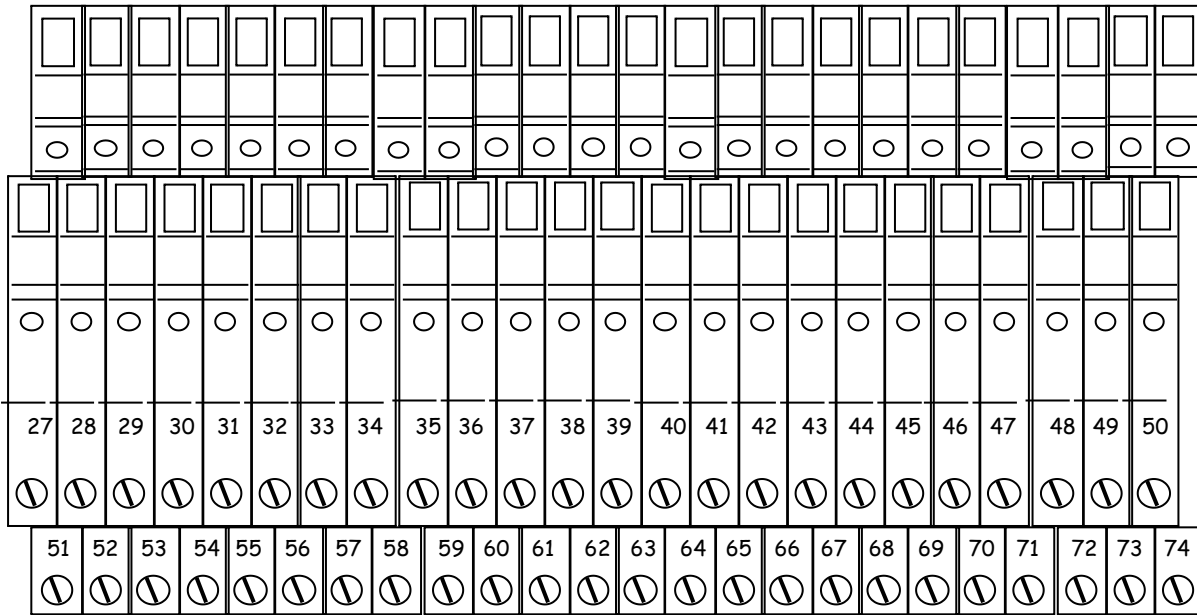


Designation	Terminal blocks	Wiring
DEP FS DEP FR	1-2 3-4	Connect to terminal of exhaust filter switch Connect to terminal 1 and 3 of return filter switch
C1 (connector)	5-6-7-8-9-10-11-12-25- 26-49-50 Agnd et AI1	Connect to the connector C1 Agnd and AI ext 1 are placed on CORRIGO E283 CLD esclave
TRPS	14 / Agnd* + UI Ext 1*	Connect to supply Pressure Transmitter
DEPS	15 + UI Ext 1*	Connect to terminal 1 and 3 of supply pressure switch
TRPR	16 / Agnd* + UI Ext 2*	Connect to return pressure Transmitter
DEPR	17 + UI Ext2*	Connect to terminal 1 and 3 of return pressure switch
CO2	18 / Agnd* UI Ext 4*	Connect to terminal 1 and 3 of return pressure switch

*Connect directly on controller CORRIGO

** Connect directly on controller CORRIGO and 8A max on all DO

OPERATING AND COMMISSIONING INSTRUCTIONS



Designation	Terminal blocks	Wiring
MF GV	39-40	Connect to NO free voltage contact of normal Speed extended operation
MF PV	41-42	Connect to NO free voltage contact of reduced Speed extended operation
ARR External	43-44	Connect to NO free voltage contact of external stop
IND P	45-46	Connect to the default contact of Heating and cooling circulator. Default = closed contact (free voltage contact mandatory)
MF Recycl	47-48	Connect to NO free voltage contact of Recirculation extended operation
Heating pump**	49-50	Connect to hot water circulator (Note: 24V 2AMax to relay)
DAD	57-58 59-60	57-58 Connect to the power supply of the DAD (L et N) 59-60 = Connect to the default contact of the DAD (10-11) (shunted if not used)
ADP (shunted if not used)	61-62	Connect on fire emergency stop (free voltage NC contact)
Cooling pump **	63-64	Connect to cold water circulator (Note: 24V 2AMax to relay)
NC (Night cooling) (LOBBY®)	65-66	24V output available if unit runs with the optional LOBBY EC for opening dampers during Night Cooling. (pay attention: 24V 2A Max to relay)
Heating demand	71-72	24V output available if unit is in heating demand. Could be used to manage DX coils (pay attention: 24V 2A Max to relay)
Cooling demand	73-74	24V output available if unit is in cooling demand. Could be used to manage DX coils (pay attention: 24V 2A Max to relay)

*Connect directly on controller CORRIGO

** Connect directly on controller CORRIGO and 8A max on all DO

OPERATING AND COMMISSIONING INSTRUCTIONS

IV.4. Wiring and operation of rotative exchanger

Rotative exchanger is factory wired

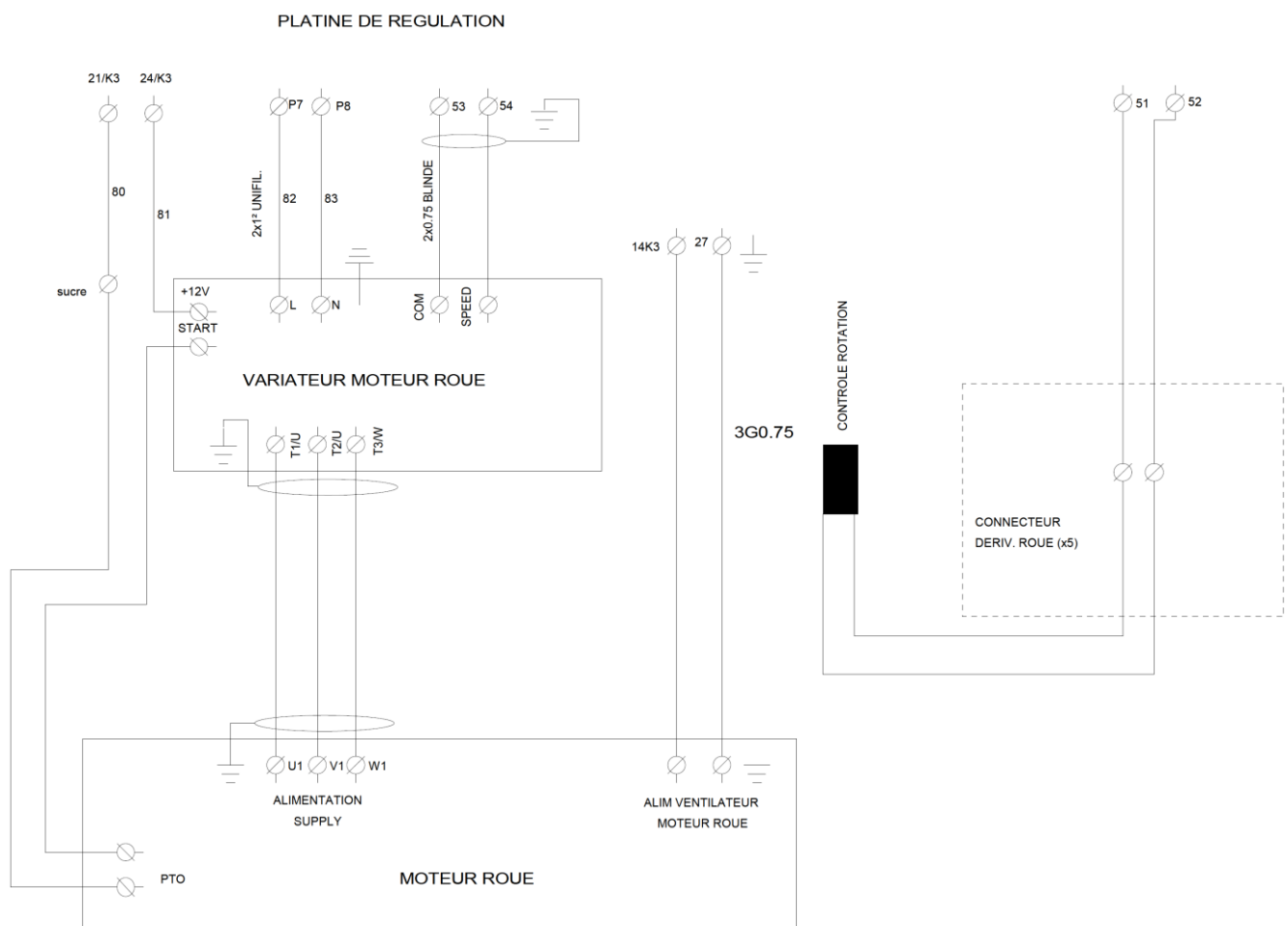
CORRIGO controller drives automatically the bypass thanks to programming and sensor mounted in standard on EXAECO units.

In winter: when heat is needed, the rotative exchanger starts to recover maximum of calories. This recovery is associated with 3 ways mixed dampers. If it is not enough to reach the temperature setpoint, hot battery starts running.

In summer:

COLD RECOVERY: if outside temperature is higher than inside temperature and cold is needed, the rotative exchanger starts to recover maximum of calories. This recovery is associated with 3 ways mixed dampers. If it is not enough to reach the setpoint, cold battery starts running.

FREE COOLING: if outside temperature is lower than inside temperature and cold is needed, the rotative exchanger stops to bring directly outside fresh air. This recovery is associated with 3 ways mixed dampers. If it is not enough to reach temperature setpoint cold battery starts running.



Adaptation if using an ASC180 drive

- Make a bridge between terminals 12 and 22 on ASC180
- - Corresponding terminal numbers if drive ref ACS180

N° on diagram	+12V	START	COM	SPEED
N° for ASC180	21 (24V)	8 (DI1)	13 (AGND)	14 (AI1)

OPERATING AND COMMISSIONING INSTRUCTIONS

IV.5. Wiring and operation of 3 ways mixed dampers (FEE)

3 ways mixed dampers are factory wired

CORRIGO controller drives automatically the bypass thanks to programming and sensor mounted in standard on EXAECO units.

RECIRCULATION: The recirculation function is used to warm up the building when it is not occupied (BOOST function). When activated, the 3-way module is completely recycled. Hot and cold outputs are active. The recirculation function is set as standard from 05:00 to 07:00. It can be actuated either by the clock 5 or by an external free voltage contact connected between the terminals 47-48. If the Night Cooling function is active, then it will have priority over recirculation.

For LOBBY® EC versions, a 24V output (to be relayed) is available between terminals 69-70 to force the opening of the dampers during the recirculation period. To wire independently of the Night Cooling output

The functions below will not be active if the control panel is associated with a DIVA or QUATTRO option

TEMPERATURE FUNCTION OF MODULE FEE

In winter: When you are in hot demand, the 3-way module closes appropriately until the maximum recycling (minimum fresh air flow rate can be adjusted (see chapter V.6.d)) to recover a maximum of calories. This recovery is associated with the rotary exchanger. If it is not enough to reach the temperature setpoint, the hot battery goes into action

In summer:

COLD RECOVERY: If the outdoor temperature is higher than the indoor temperature and when there is a cold demand, the 3-way module closes appropriately until the maximum recycling (minimum fresh air flow rate can be adjusted to This recovery is associated with the rotary heat exchanger If it is not enough to reach the temperature setpoint, the cold battery goes into action.

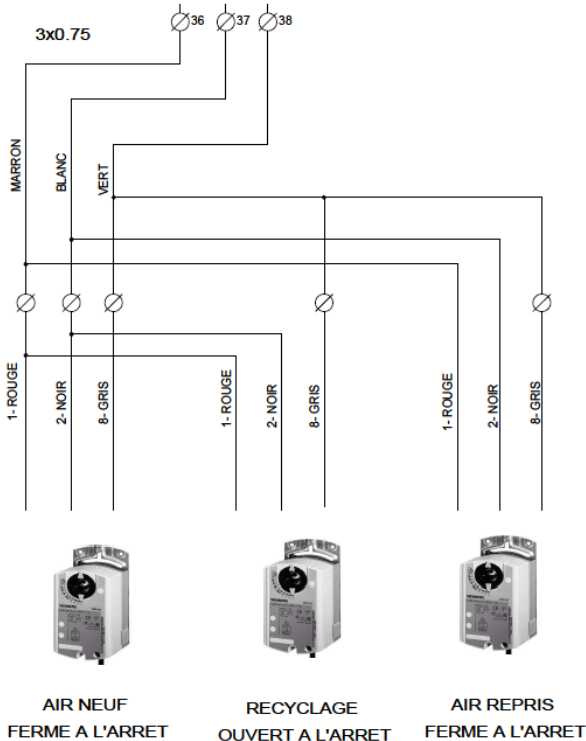
FREE COOLING: If the outdoor temperature is lower than the indoor temperature and you are in cold demand, the 3-way module opens appropriately until all fresh air to recover a maximum of calories. This recovery is associated with the rotary exchanger. If it is not enough to reach the temperature setpoint, the cold battery goes into action

CO2 FUNCTION OF THE FEE MODULE: The 3-way module also manages the indoor air quality. In the case where the CO2 level in the building is higher than the setpoint then the signal imposing the most fresh air (temperature or CO2) will have priority.

OPERATING AND COMMISSIONING INSTRUCTIONS

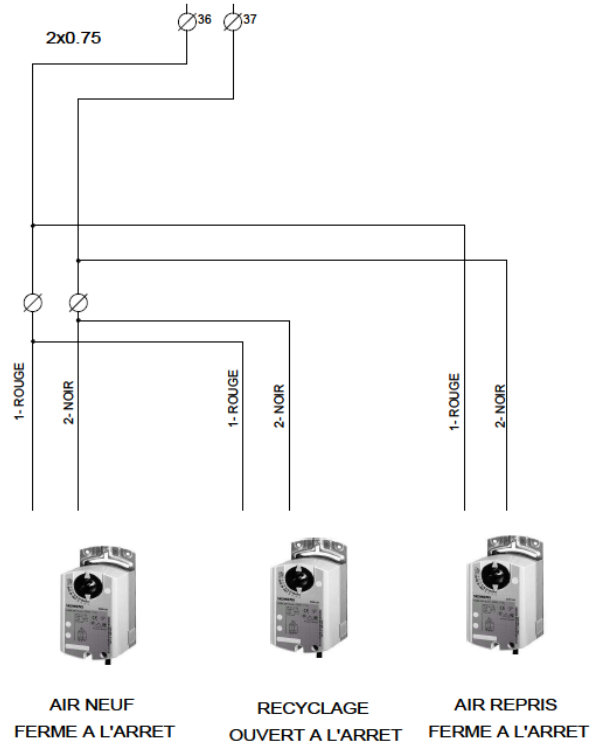
CABLAGE STANDARD

PLATINE DE REGULATION



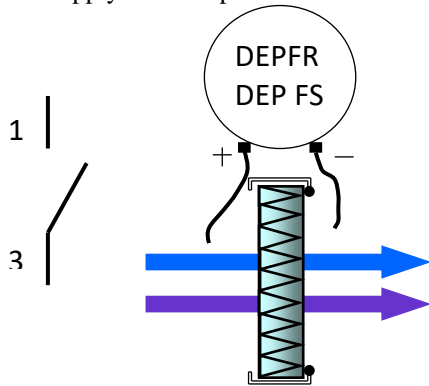
CABLAGE AVEC OPTION DIVA EC

PLATINE DE REGULATION



IV.6. Filter pressure switch wiring

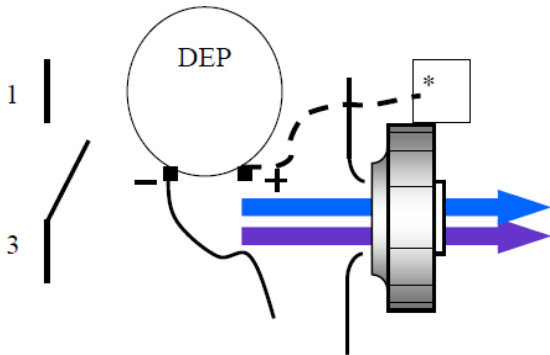
The supply air filter pressure switch is factory connected



IV.7. Fan pressure switch

The fans pressure switches are factory connected

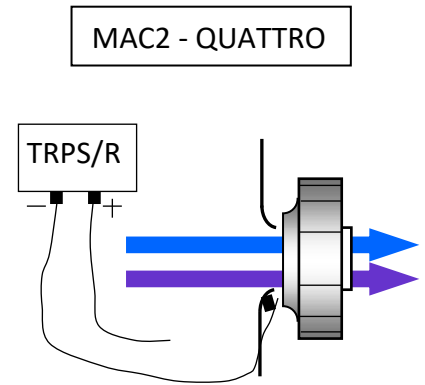
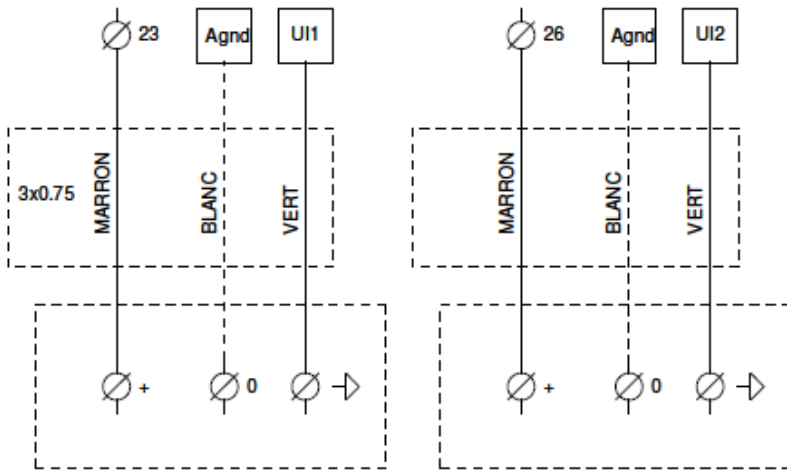
OPERATING AND COMMISSIONING INSTRUCTIONS



*To be connected if DEP does not detect the fan on

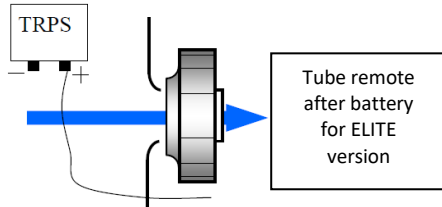
IV.8. Pressure transmitter of LOBBY®/MAC2®/QUATTRO®

Fans pressure transmitters are factory connected

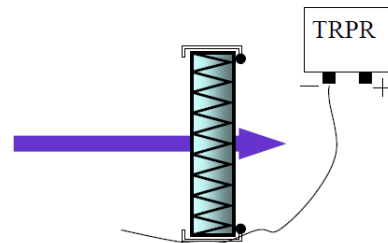


LOBBY

Soufflage LOBBY



Reprise LOBBY



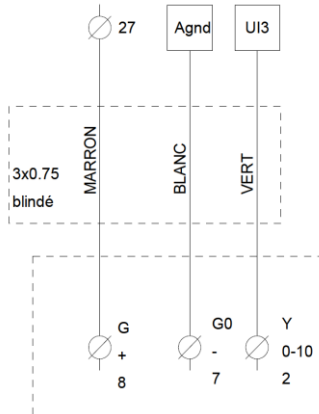
IV.9. Motors wiring

See chapter VIII.4

IV.10. CO2 transmitter wiring

OPERATING AND COMMISSIONING INSTRUCTIONS

CO2 transmitter is factory connected



IV.11. Night Cooling (Overventilation nocturn)

This function is used during summer to cool down buildings during nights with outside cool air. It decreases the cold needs during days. Night Cooling function runs only from 00:00 AM to 7:00 h AM. During Night Cooling, hot and cool outputs are locked on 0V. Exchanger runs only with fresh air. At the end of Night Cooling period heating is blocked to 0V during 60 minutes. Start conditions: customizable in chapter V.5.b.2

- Outside temperatures are higher to 22°C during the day.
- Clocks are setted in LS or stopped during 00h00 and 07h00.
- Outside temperature is lower than 18°C during Night Cooling period
- Outside temperature is higher to 10°C during Night Cooling period
- Room temperature is higher to 18°C

During Night Cooling period fans are running 85% of their capacity. This speed is adjustable (see chapter V.5.b.2)

For LOBBY versions, a 24V output (to relay) is available between 22 and DO7 terminals to force the opening of damper's zone during Night Cooling period.

IV.12. Hot water coil intergrated (H) / Changeover water coil (CO) et cold coil C

For units equipped with a cold battery or changeover, the additional module is equipped with a removable stainless steel condensate tray with integrated siphon. Connection of the PVC pipe diameter 32 to predict.

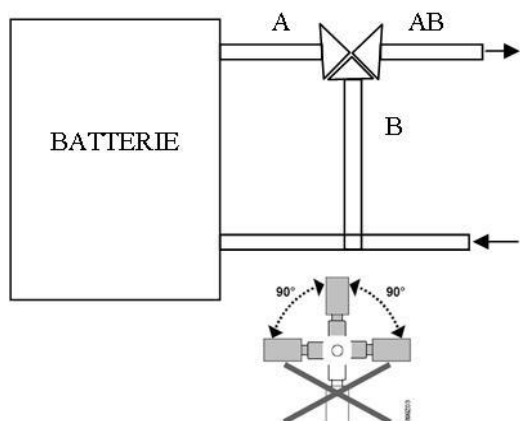
Connection between the additional module and the B1 junction box to be made.

Pay attention to let the doors free of access (ducts, cables)

In the ELITE and EDEN version, the battery is already installed in the central unit, the Antifreeze Thermostat is connected.

However, you must wire the 3-way valve. If you are using a hot coil battery, also connect the THA (Thermostat Antifreeze) and remove the supply temperature sensor after the battery

OPERATING AND COMMISSIONING INSTRUCTIONS



THE VALVE MUST BE CONNECTED OFF

Connect the actuator of the 3-way valve as follows:

Hot Battery:

Terminal **77** of the connector B1 (additional module) on +24V (G) of the actuator
 Terminal **78** of the connector B1 (additional module) on 0V (G0) of the actuator
 Terminal **79** of the connector B1 (additional module) on 10V (Y) of the actuator
 Connect the NC contact (C et 2) of **THA (THERmostat Antigel)** on terminal **75** and **76** of the connector B1 (additional module)
 Possibility to connect the hot water circulator to the control unit on the terminals **49** and **50**. (Note: 24V output to relay)
 Possibility to connect a free voltage contact NO pump fault on the terminals **45** et **46**

Cold battery:

Terminal **80** of the connector B1 (additional module) on +24V (G) of the actuator
 Terminal **81** of the connector B1 (additional module) on 0V (G0) of the actuator
 Terminal **82** of the connector B1 (additional module) on 10V (Y) of the actuator
 Connect the NC contact (C et 2) of **THA (THERmostat Antigel)** on terminal **75** and **76** of the connector B1 (additional module)
 Possibility to connect the cold water circulator to the control unit on the terminals **63** and **64**. (Note: 24V output to relay)
 Possibility to connect a free voltage contact NO pump fault on the terminals **45** et **46**

Changeover battery:

Red wire of changeover thermostat (CO) on 10V (Y) of the actuator
 Terminal **77** of the connector B1 (additional module) on +24V (G) of the actuator
 Terminal **78** of the connector B1 (additional module) on 0V (G0) of the actuator
 Terminal **79** of the connector B1 (additional module) on brown wire of changeover thermostat (CO)
 Terminal **82** of the connector B1 (additional module) on black wire of changeover thermostat (CO)
 Connect the NC contact (C et 2) of **THA (THERmostat Antigel)** on terminal **75** and **76** of the connector B1 (additional module)

Possibility to connect the hot water circulator to the control unit on the terminals **49** and **50**. (Note: 24V output to relay)
 Possibility to connect the cold water circulator to the control unit on the terminals **63** and **64**. (Note: 24V output to relay)
 Possibility to connect a free voltage contact NO pump fault on the terminals **45** et **46**

IV.13. DX cold coil or changeover DX coil

A condensate connection via a siphon is to be expected.

Possibility of connections:

- 24 V available when the unit is on hot or cold demand.
- 0-10V hot and cold analogue outputs.

Hot demand:

- 24V digital output: To be connected to terminals 71 and 72 and to give the run command to drive a DX module (Attention 24V 2A Max to relay)
- 0-10V analogue output: To be connected to terminals 8 and 9 (8 = 0V and 9 = 0 / 10V)

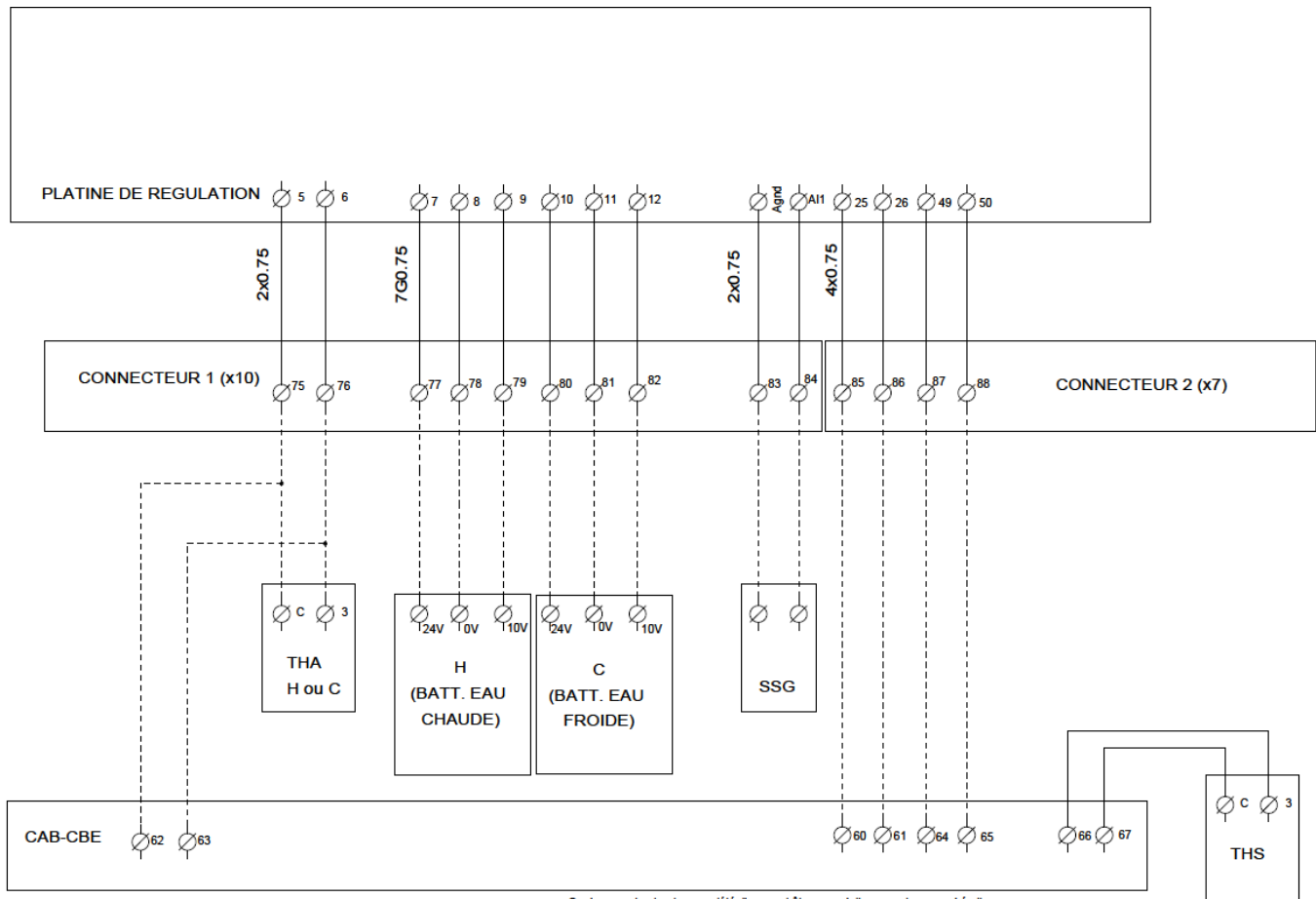
Cold demand:

OPERATING AND COMMISSIONING INSTRUCTIONS

- 24V digital output: To be connected to terminals 73 and 74 and to give the run command to drive a DX module (Attention 24V 2A Max to relay)
- 0-10V analogue output: To be connected to terminals 11 and 12 (11 = 0V and 12 = 0 / 10V)

WARNING: The 24V and 0-10V operating commands do not manage any safety, anti-short cycle ... direct expansion.

IV.14. Electrical Battery



IV.15. Fire function

See configuration chapter V.8

There are 2 ways to drive the fire function:

- Emergency Fireman stop: cable between 61 and 62 terminals (NC free voltage contact). Total stop of the central control. (no display available)
- Fire alarm: this function controls exhaust and return fans with 5 modes available in the parameters of the regulation (the function can be activated on site). "fire alarm" will be on the display.
 1. « **stop** »: complete stop of the unit
 2. « **continuous work** »: Start of the unit in HS, fire function will have priority on all the other alarms.
 3. « **Normal work** »: keeps the unit running with parameters activated on site (Stop/LS/HS)
 4. « **Supply fan only** »: start or keeps in HS the supply fan (extract stopped)

OPERATING AND COMMISSIONING INSTRUCTIONS

5. « Extract fan only »: starts or keeps in HS the extract fan (supply stopped)

Digital input « external stop » is priority on fire function.



This function is not adapted anymore to the French market and will be in all cases validated by the control office.

Digital input fire alarm will be connected between **DI8 terminal of the slave controller and 45 of the terminal block (free voltage contact required)**

IV.16. Connection of the MODBUS / WEB / BACNET

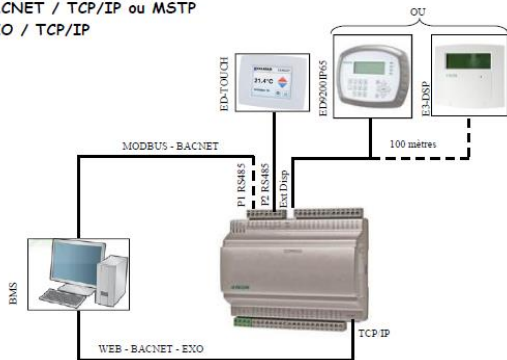
See configuration chapter V.8

MODBUS RS485 and BACNET MSTP: Use armored cable 2 crossed pairs wire type BELDEN 8723 or similar to connect BMS to controller (to connect to port 1 (BANE) / connect armor to N and don't connect E)

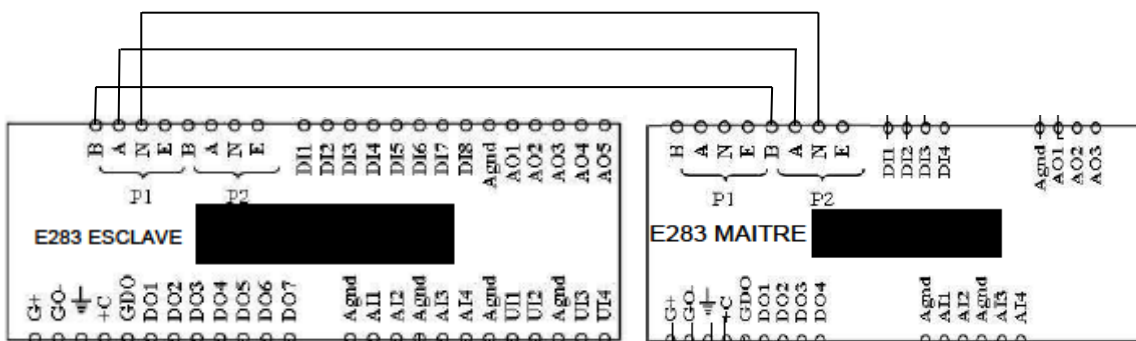
WEB / MODBUS TCP/IP et BACNET IP: to connect to TCP/IP port

BMS : en standard

- MODBUS / RS485 ou TCP/IP
- WEB / TCP/IP
- BACNET / TCP/IP ou MSTP
- EXO / TCP/IP



IV.17. Connection between controller Maître et Esclave



V. SETTINGS

V.1. Display

EXAECO® is delivered in standard with ED9200IP65 display

Once accessed to the emulator settings, you will have access to all function and screens below

- Directional arrows up, down left and right help to navigate in the menus.
- Up and Down buttons help to increase or decrease the values of a parameter when you have access to. Right and left buttons help to navigate inside the parameter.
- OK button help to enter the value and to confirm a choice. C button helps to cancel it.

OPERATING AND COMMISSIONING INSTRUCTIONS

- Alarm button (red) allows the access of the defaults list.
- Left arrow also helps to go out of the alarm menu and go back to the main menu
- Cursors indicate the possible movements and which arrows to press.

V.2. Example of setting

- Move the cursor to the required menu

In the required menu:

Hour: ex: 10:33
Date: ex: 08/12/23 (year/month/day)
Day: ex: Tuesday

press OK

Enter the password if necessary

- Enter the required value with arrows or with numerical keyboard
- Press OK to valid and go to next step.

When values are updated press the left arrow to come back to the welcome screen

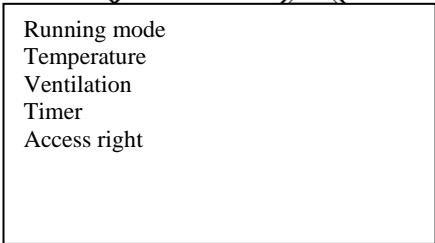
V.1. Standard settings (operator menu)

Words in normal writing = viewing only / **Words in bold** = Modification is possible / **Outlined words in bold** = Modification is possible with password 3333 ... = non accessible or not used



ATTENTION: Do not modify parameters which are not in bold characters, in this case no after sales will be admitted

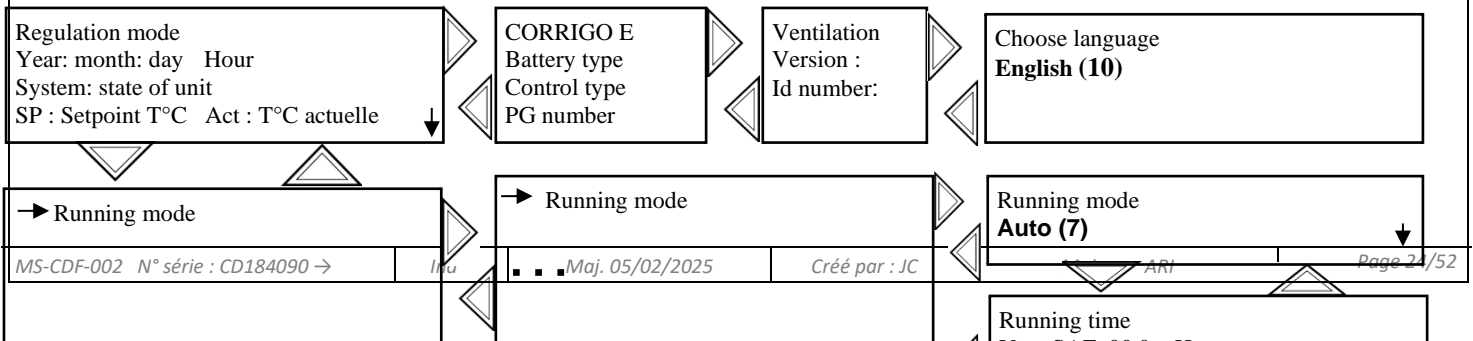
OPERATING AND COMMISSIONING INSTRUCTIONS



List of the accessible and modifiable main menus with password 3333.
Humidity regulation menu is only accessible when unit is in humidity control mode

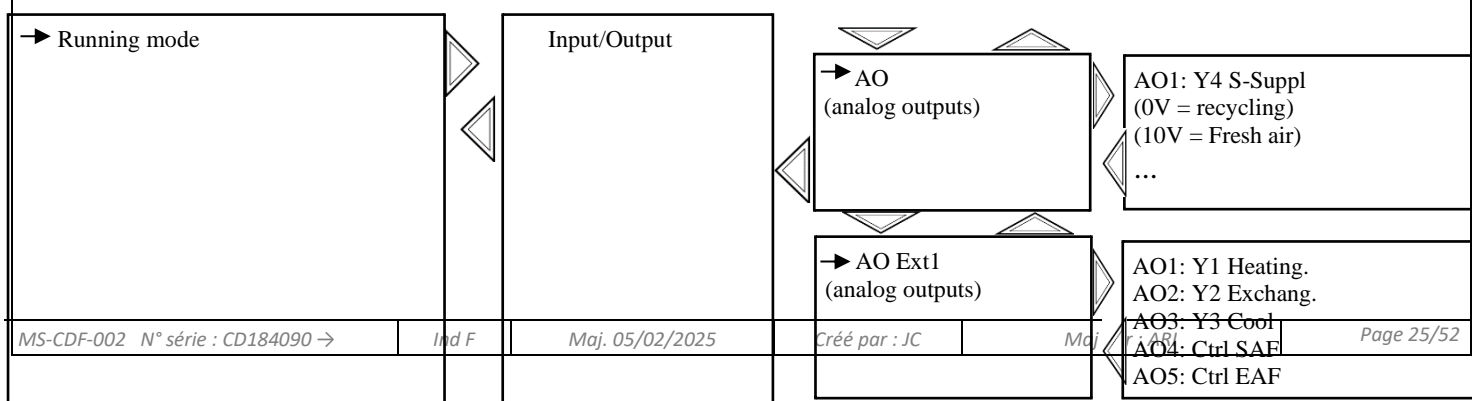
(10) Language setting (see chapter V.4.e)

V.1.a. Menu running mode

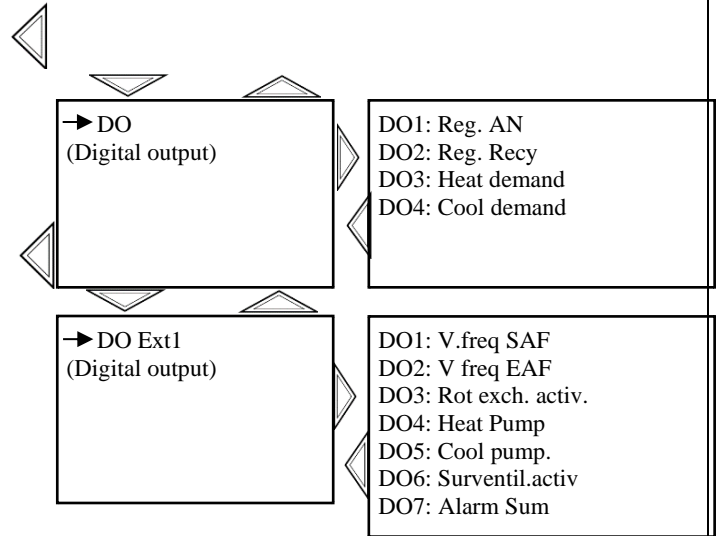


OPERATING AND COMMISSIONING INSTRUCTIONS

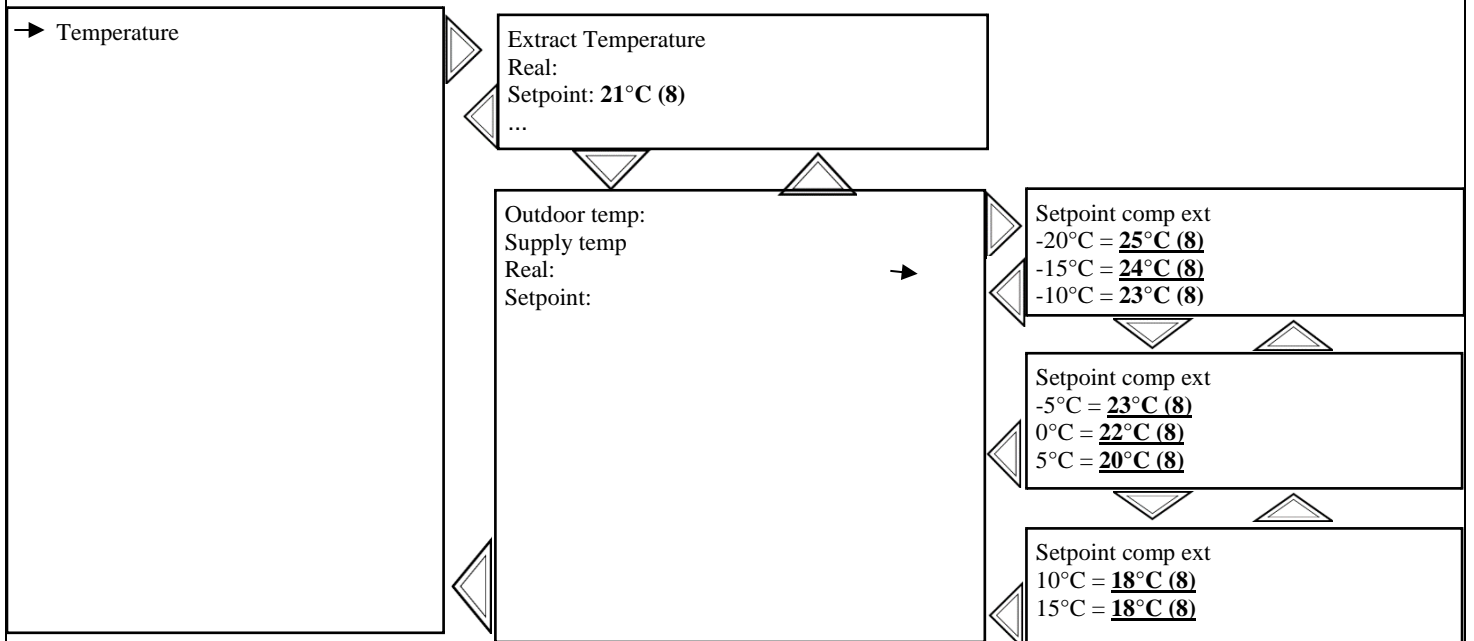
- (7) Unit Start/Stop (see chapter V.4.e)
- (10) Language setting (see chapter V.4.f)



OPERATING AND COMMISSIONING INSTRUCTIONS



V.1.b. Temperature menu



(8) Temperature setpoint setting (see chapter V.4.d)

V.1.c. Ventilation menu

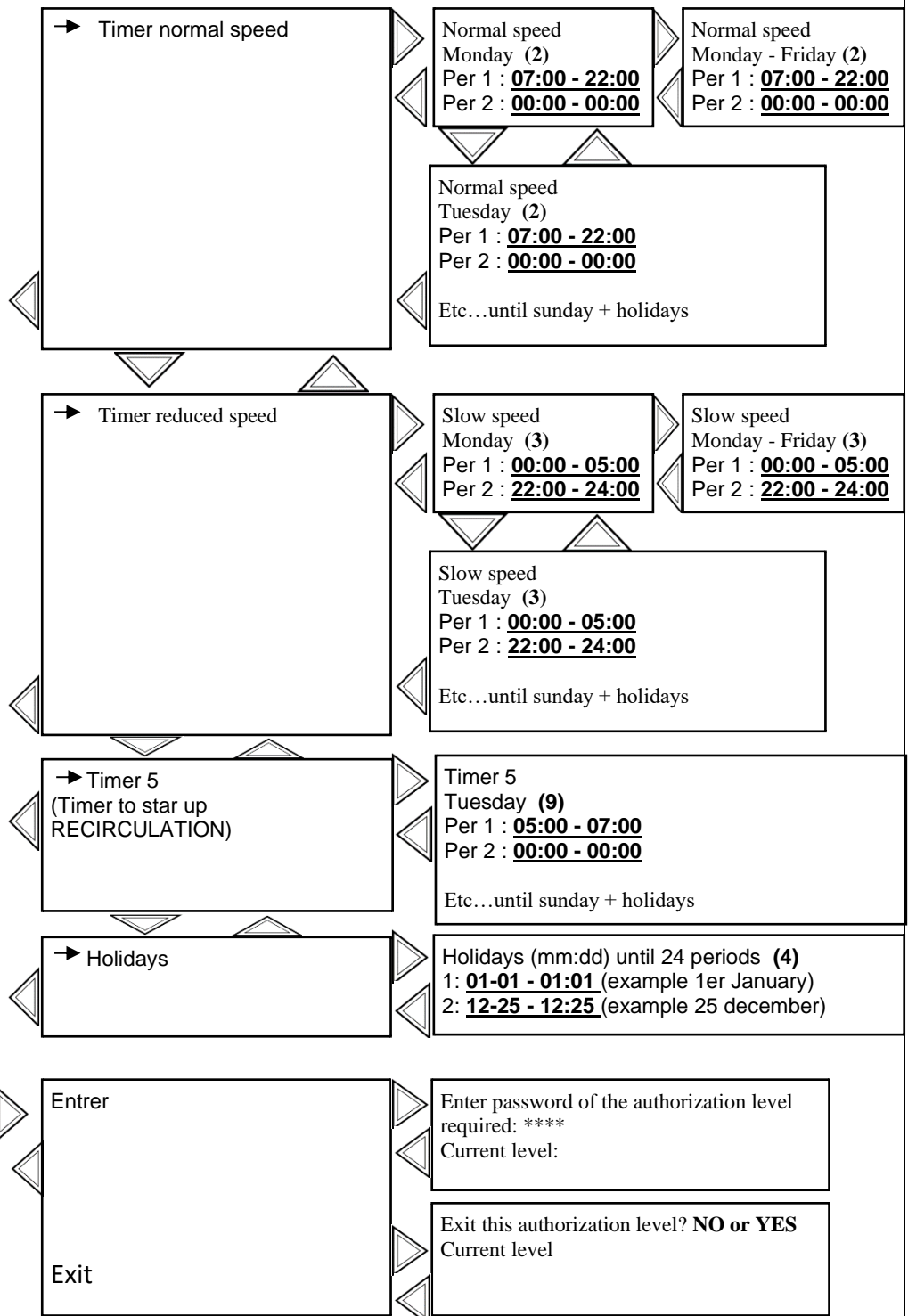


OPERATING AND COMMISSIONING INSTRUCTIONS

- (5) Speeds, pressures, airflows (see chapter V.4.b)
- (6) CO2 setpoint except DIVA and QUATTRO (see chapter V.4.c)

Timer → <i>V.1.d. <u>Timer menu</u></i>	Hour / Date →	Hour : <u>15:54 (1)</u> Date : <u>2011-01-25 (1)</u> Day : <u>Tuesday (1)</u>			
MS-CDF-002 N° série : CD184090 →	Ind F	Maj. 05/02/2025	Créé par : JC	Maj par : ARI	Page 27/52

OPERATING AND COMMISSIONING INSTRUCTIONS



1. Hour and date setting (see chapter V.4.a)
2. HS program setting (see chapter V.4.a)
3. LS program setting (see chapter V.4.a)
4. Holidays period setting (see chapter V.4.a)
9. Holidays period setting (see chapter V.4.a)

V.2. Operator parameters modification (password 3333 required)

V.2.a. Dates and hours clocks setting

V.2.a.1. Date and hour of the CORRIGO controller [(1) chapter V.3.d]

OPERATING AND COMMISSIONING INSTRUCTIONS

Access: Hour Date setting

Date and hour of the regulator are set by default in the CORRIGO controller. Summer/Winter time is automatically managed.

V.2.a.2. Hour programming of the functioning system [(2) (3) chapter V.3.d]

Access:

- **Timer normal speed:** Time settings / normal speed program
- **Timer reduced speed:** Time settings / slow speed program
- **Timer recirculation:** Time settings / Timer 5

System is set to work in normal speed (HS-1/1) **07:00 - 22:00** in slow speed (LS-1/2) **22:00 - 06:00** except **DIVA / LOBBY / QUATTRO** versions which work in slow speed (LS-1/2)

As indicated in arborescence you also have the possibility to modify Monday to Friday periods by pressing the right button when you are on the Monday screen

Note: if slow speed (LS-1/2) and normal speed (HS-1/1) are activated in the same time window, unit works in high speed

Operation exceptions:



DIVA®/QUATTRO®: For CO2 regulation do not activate any normal speed time window (GV-1/1)

LOBBY: Only slow speed clock (LS-1/2) must be activated

NIGHT COOLING: Only works if unit is in slow speed (LS-1/1) between 00:00 and 07:00.AM

(Example: If unit is in (LS-1/2) between 02:00 and 06:00 and in (HS-1/1) the rest of the time. Then NIGHT COOLING is allowed to work only from 02:00 to 06:00 AM)

V.2.a.3. Holidays periods [(4) chapter V.3.d]

Access: Time settings / Holidays

The system is set without vacation period. In case you wish to reduce the operating time during holiday periods, set the holiday operating hours as described in chapter V.3.4), then set your holiday days. Speed modification / pressure in PV et GV

V.2.a.4. ECO / DIVA® / [(5) chapter V.3.c]

Access: ventilation Regul / Frequency control VAS 1/1 and 1/2 or frequency control VAR 1/1 et 1/2

You can modify the rotation speed of the unit in PV-1/2 (slow speed) and in HS-1/1 (normal speed) for each fan to set the airflows.

- To set the initial airflow (GV-1/1), force the system in normal speed with available terminals « Forced start HS » (bridge between 41 and 42 terminals).
- To set the initial airflow LS, force the system in slow speed with available terminals « Forced start LS » (bridge between 39 and 40 terminals).

V.2.a.5. LOBBY® [(5) chapter V.3.c]

Access: ventilation Regul / Pressure control VAS 1/2 or Pressure control VAR 1/2

You can modify the constant pressure of the unit for each fan to set the airflows.

- To set the initial airflows LS, force the system in normal speed with available terminals « Forced start LS » (bridge between 39 and 40 terminals).

V.2.a.6. MAC2®/QUATTRO® [(5) chapter V.3.c]

Access: ventilation Regul / Airflow control VAS 1/1 and 1/2 or Airflow control VAR 1/1 and 1/2

You can modify the rotation speed of the unit in PV-1/2 (slow speed) and in HS-1/1 (normal speed) for each fan to set the airflows.

- To set the initial airflow (GV-1/1), force the system in normal speed with available terminals « Forced start HS » (bridge between 41 and 42 terminals).
- To set the initial airflow LS, force the system in slow speed with available terminals « Forced start LS » (bridge between 39 and 40 terminals).

V.2.b. CO2 setpoint modification for three ways mixing damper (FEE) (except DIVA and QUATTRO)

[(6) chapter V.3.c]

Access: CO2

You can modify the CO2 setpoint. (1000ppm in standard)

OPERATING AND COMMISSIONING INSTRUCTIONS

V.2.c. Temperature setpoint modification

[(8) chapter V.3.b]

Access: temperature Regul

Regulation is based on the temperature control of:

- Supply with external compensation (set in standard). Supply temperature setpoint follows outside temperature in compliance with RT 2012 norm.
- Extract

V.2.d. Forced stop of the unit or forced start LS or HS on the remote control

[(7) chapter V.3.a]

Access: running Mode / running Mode

You can stop (7) (**stop**) unit with CORRIGO controller or do a forced start LS (7) (**manual speed 1/2**) or HS (7) (**manual speed 1/1**). In standard unit works automatically with clocks (7) (**Auto**)



If unit do not work in automatic mode an alarm will start. Manual speed 1/1 and manual speed 1/2 modes must be used only for the commissioning and repair. An other setting will lead to a failure of the unit.

V.2.a. Choice of language

[(10) chapter V.3]

Access: Starting screen / language choice

V.3. Intermediate settings (service level)

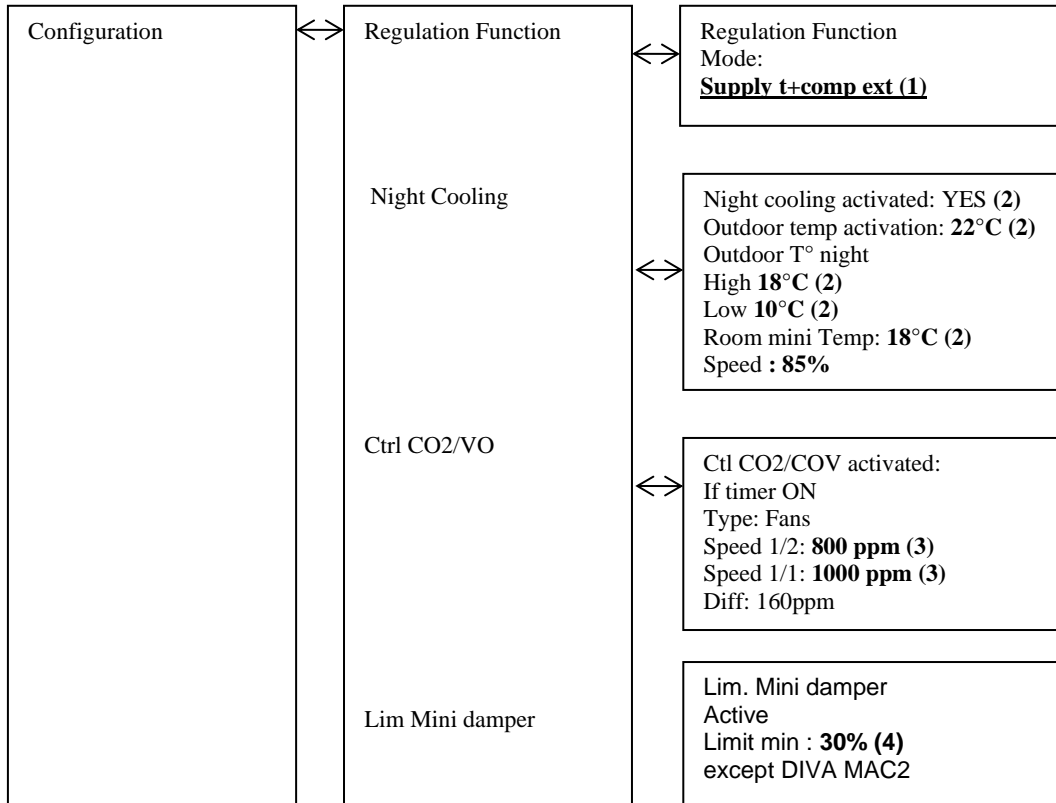
Type of regulation type setting, Night Cooling parameters and **CO2 setpoint** require an access to the Configuration menu. You need the access right to the « Service » level. Follow the instructions below.



Enter **2222** with directional arrows and validate with OK. Press left arrow twice to reach the access of the menus. In case of mistake press C button twice and start again.

OPERATING AND COMMISSIONING INSTRUCTIONS

V.3.a. Configuration menu in service access



1. Regulation type choice (see chapter V.6.a)
2. Parameters modification Night Cooling (see chapter V.6.b)
3. CO2 set point modification (only in DIVA and QUATTRO) (see chapter V.6.c)
4. Limit mini damper (except DIVA et QUATTRO) (see chapter V.6.D)

V.4. Modification of the services parameters (password 2222)

V.4.a. Regulation mode of the unit [(1) chapter V.3.a]

Access: Configuration / Regulation function.

Regulation type is set by default in the CORRIGO controller in outside compensation exhaust. You can also select return control mode.

(ATTENTION, if you want to regulate following a room temperature, select the regulation mode« Ctrl extract » Any other mode will lead to the failure of the unit)

V.4.b. Overventilation parameters [(2) chapter V.3.a]

Access: Configuration / Night cooling

Night cooling speed is set in standard in 85%. You can modify it. You can also change the temperature of Night Cooling activation (outside temperature day...) and deactivate it.

V.4.c. CO2 setpoint for DIVA / QUATTRO option [(3) Chapter V.3.a]

Access: Configuration / Ctrl CO2/COV

CO2 setpoint is set in standard: LS = 800ppm HS = 1000ppm. Unit will increase its speed proportionally to reach its maximum speed when CO2 will be at 1000ppm.

V.4.d. Minimum opening percentage of the 3 ways mixing damper (FEE) [(4) chapter V.3.a]

Access: Configuration / Ctrl CO2/COV

Standard to 30% opening or 10% new air – See correspondence curve chapter VIII.5

OPERATING AND COMMISSIONING INSTRUCTIONS

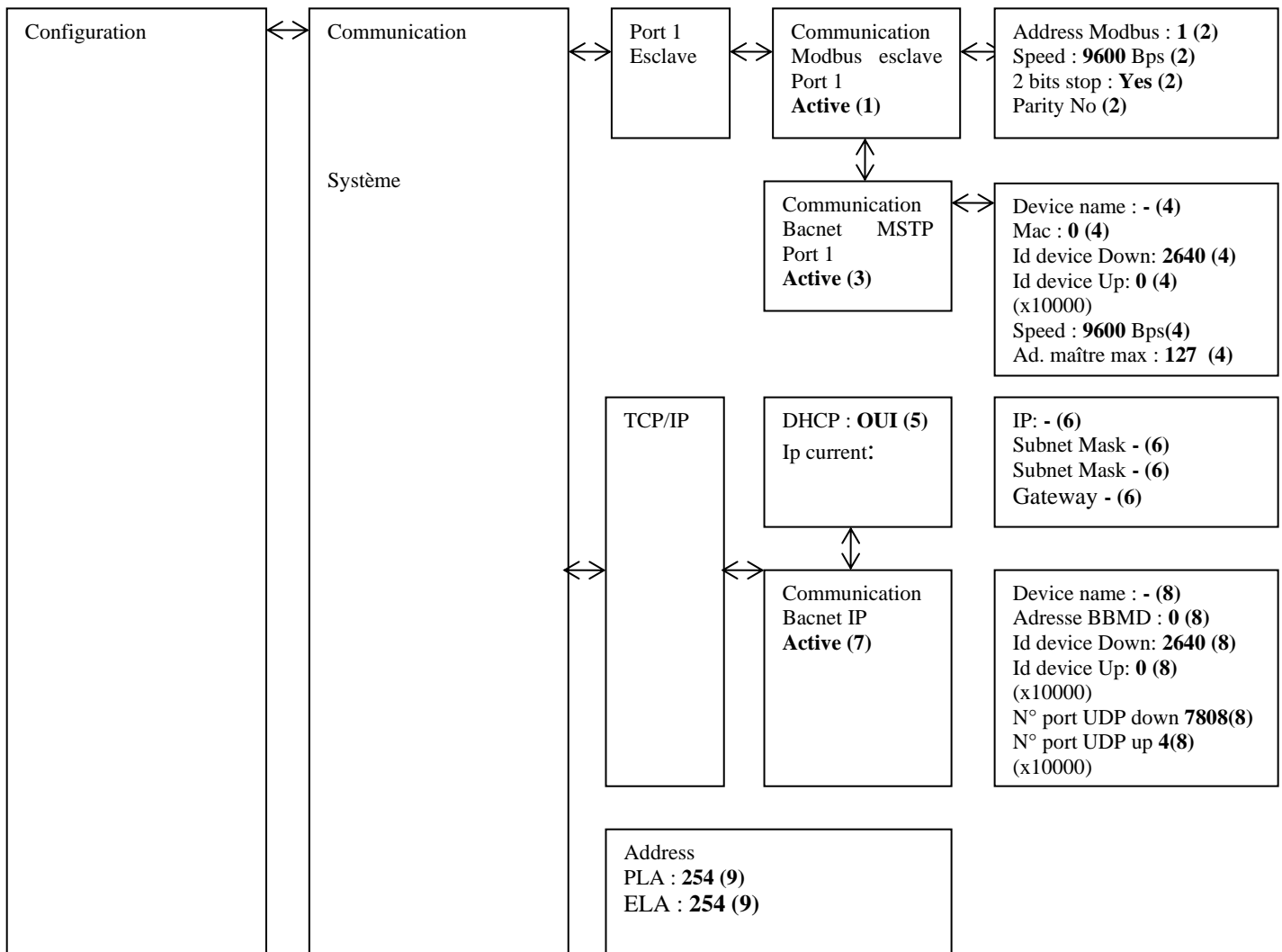
V.5. Administrator settings

Activation of the **communication**, **dehumidification** and **fire function** requires an access to Configuration menu in system level. You have to get the access rights to « Admin » level. Follow the instructions below:



Enter **1111** with directional arrows and validate with OK button. Press left arrow twice to reach the menu. In case of mistake press C button twice and start again

V.5.a. Configuration menu with admin level access



- 1 et 2 Activation MODBUS RS485 and settings (see chapter V.6)
- 3 et 4 Activation BACNET MSTP and settings (see chapter V.6)
- 5 et 6 Settings TCP/IP(see chapter V.6)
- 7 et 8 Activation du BACNET IP and settings (see chapter V.6)
- 9 Adressage Repeater (see chapter V.6)

OPERATING AND COMMISSIONING INSTRUCTIONS

V.6. Modification of the service parameters

V.6.a. MODBUS

You will find the simplified MODBUS at the end of the instructions and commissioning manual.

Access: Configuration / Communication

MODBUS TCP/IP is activate in standard in DHCP. Possibility to know DHCP address or set IP fixe [(5)(6) chapter V.7],

Modbus Port = 502 / Device ID = 255

Le **MODBUS RS 485** must be activate [(1) chapter V.7]. Possibility to set speed, parity, stop bits... [(2) chapter V.7].

Modbus Type

1 = Coil status register (Modus function 1, 5 et 15)

2 = Input status register (Modus function 2)

3 = Holding register (Modus function 3, 6 et 16)

4 = Input resister (Modus function 4)

Supported Modbus functions

Read Coils (1)

Read discrete input (2)

Read Holding registers (3)

Read Input registers (4)

Write single Coils (5)

Write single register (6)

Write multiple Coils (15)

Write multiple register (16)

EXOL Type

R = Real (-3.3E38 – 3.3E38)

I = Integer (-32768 – 32767)

X = Index (0 – 255)

L = Logic (0/1)

Transmission mode

Controller is set in RTU mode

A maximum of 47 registers can be read in one message

V.6.b. Communication WEB

You have the possibility to communicate via TCP/IP WEB in language. In this case the device is delivered with Web page and regulator set in DHCP.

Possibility to know DHCP address or set IP fixe [(5)(6) chapter V.7], or via E-tool software <http://www.regin.se>

OPERATING AND COMMISSIONING INSTRUCTIONS

V.6.c. BACNET

You will find the simplified BACNET at the end of the instructions and commissioning manual.

Access: Configuration / Communication

BACNET IP must be activate [(7) chapter V.7]. Possibility to know DHCP address or set IP fixe [(5)(6) chapter V.7]. Possibility to set ID / N° port... [(8) chapter V.7].

BACNET MSTP must be activate [(3) chapter V.7]. Possibility to set speed, ID, address... [(4) chapter V.7]. Speed = 9600 / MAC address = 0 / Device ID = 2640 / Max master = 127

BACnet Type

10XXX = Read and write Binary

20XXX = Read binary

30XXX = Read and write analogue

40XXX = Read analogue

30XXX = Read and write multistate

40XXX = Read multistate

(XXX = MODBUS Address)

AV = Analogue Value

BV = Binary Value

MSV = Multistate value

BMMD Address: The BBMD address is used for discovering devices that are attached to different BACnet/IP subnets and separates by an IP router. The address is entered as host:host can be the host's name if DNS ins configures. If DNS is not configured, the host address should be entered in the format xxx.xxx.xxx.xxx followed by the port number (default settings 47808)

MAC: The MAC address of the device. This need to be unique only to the subnet.

Device ID: The ID of a device, used to identify it on the BACnet network. This number cannot be duplicated anywhere on the BACnet network and must therefore be unique. To set an ID value of 34600, the low number would be set to 4600 and the high number to 3

For more information see CORRIGO Pics via <http://www.regin.se>

V.6.d. Fire funtion activation

Setting of the Input

Access: Configuration / Input Output / DI ext / DI8

Declare input DI ext 8 in « AI fire » « NO »

Setting of the function

Access: Configuration / Fire function

Choose the required mode when activating the fire function

« Stop »: Complete stop of the unit

«Continuous operation »: Start or keeping of the unit in HS. Fire function will have priority on all others alarms.

«Normal operation»: keeps the unit in the same parameters chosen on site (stop/LS/HS)

« Exhaust fan only »: Start or keep in HS the exhaust fan (return is stopped)

« Return fan only »: Start or keeps in HS the return fan (exhaust stopped)

Alarm setting

Access: Configuration / alarm configuration

Enter alarm number « 10 » go on the right and enter in priority « C alarm C » « Active »

OPERATING AND COMMISSIONING INSTRUCTIONS

VI. REPAIR

VI.1. Different types of defaults

EASY control units are equipped with alarms. When the red LED flashes, press the alarm key (red) to display the fault. This one will be class A, or C (see details below)

Type of defect:

A: The fault stops the ventilation system. The unit will not start until the problem has been solved and the fault has been acknowledged.

C: The fault does not stop the ventilation system and disappears automatically as soon as the problem has been solved.

To acknowledge a fault press the alarm button (red), "cancel" and then "save" the fault using the arrows and the OK key. Be careful not to "block"

Description	Cause
CORRIGO screen do not light up	- Unit is not powered correctly (LED P/B of CORRIGO switched off) - To light up the screen, press a button (backlit). - Command fuse is disused
Fans do not start	- Clocks are on 0 - No external start order - External stop - Active alarm
Remote control do not run or gives wrong values	Remote control further than 100m Repeater is not connected correctly

VI.2. List of alarms

n°	View	Description	Type	Tempo	Cause
1	Malfunction supply air fan	(Ext UDI1 must be closed « on » if fan runs) Or Ext UAI1 must be higher than 30Pa if fan runs)	A	30s (120s for LOBBY)	<ol style="list-style-type: none"> Pressure switch is wrongly connected (pressure switch must be set in 30Pa). Pressure on the transmitter is lower to 30Pa. (LOBBY®) (contact us) Motor is disused Thermic protection motor is activated Check the connection of the crystal tubes (Chapter IV.7 and IV.8) Presence of water in the crystal tube 0-10V motor is inverted
1	Malfunction extract air fan	(Ext UDI2 must be closed « on » if fan runs) Or Ext UAI2 must be higher than 30Pa if fan runs)	A	30s (120s for LOBBY)	<ol style="list-style-type: none"> Pressure switch is wrongly connected (pressure switch must be set in 30Pa). Pressure on the transmitter is lower to 30Pa. (LOBBY®) (contact us) Motor is disused Thermic protection motor is activated Check the connection of the crystal tubes (Chapter IV.7 and IV.8) Presence of water in the crystal tube 0-10V motor is inverted
3	Pump fault	Ext DI7 must be open « off » if there is no fault	C	0s	The circulator fault contact is closed

OPERATING AND COMMISSIONING INSTRUCTIONS

6	Filter guard 1	Ext DI1 must be open « off » if there is no default	C	5s	<ol style="list-style-type: none"> Filters are dirty Filters pressure switches are wrongly connected (Pressure switches must be set on 150 Pa for G4 200Pa for F7). Control the connection of the crystal tubes (chapter IV.6)
8	External frost guard	Ext DI3 must be closed « Fer » if there is not default	C	120s	<ol style="list-style-type: none"> THA thermostat is not set on 5°C THA thermostat s disused Circulating pump is disused 3 ways valve 3 is wrongly connected, hydraulically or is disused
15	High supply air temp	Ext AI1 is mounted higher than 50°C	A	30s	<ol style="list-style-type: none"> Exhaust temperature is higher than 50°C Temperature setting is too high Exhaust fan is stopped (vent AS Default) when hot battery is in full capacity.
23	Electric heating is overheated	Ext DI3 must be closed « Fer » if there is no default	A	5s	<ol style="list-style-type: none"> Safety thermostat THS is activated. To reset THS, push on the rearmament on the electric battery Power cut Exhaust fan is stopped (vent AS Default) when electric battery is in full capacity
27	Sensor error outdoor temp	Control the value Ext AI2	A	5s	Outside temperature sensor SEG is disused. Outside temperature sensor SEG is wrongly connected (see chapter IV.3)
29	Rotation sentinel exchanger	Control the value DI6	C	300s	The belt of the exchanger is broken
31	Supply air fan control error	Difference higher than 50Pa between exhaust setpoint and pressure on Ext UAI1	C	30min	The network of blowing do not correspond to the fan or to the setpoint. Filter is dirty
32	Extract air fan control error	Difference higher than 50Pa between exhaust setpoint and pressure on Ext UAI2	C	30min	Return network do not correspond to the fan or to the setpoint. Filter is dirty
35	Manual	Runs in manual mode	C	5s	Default for information purposes (the plant is switched off in PV or GV directly on the display (see (7) chapter V.3.a)
36 à 44	... in Manual mode	Functions are modified in manual mode	C	5s	In the Auto Manual menu everything must be in Auto.
48	Internal battery error	Error battery intern	A	5s	Intern battery of the CORRIGO is disused Change the battery quickly in order to not loose program. See chapter VII.2
49	Sensor error supply air temp	Control the value on Ext AI1	A	5s	Blowing temperature sensor SSG is disused Blowing temperature sensor SSG is wrongly connected (see chapter V.3.a)
50	Sensor error extract air temp	Control the value on Ext AI3	A	5s	Supply temperature sensor SRG is disused Supply temperature sensor SRG is wrongly connected (see chapter V.3.a)
55	Sensor error pressure VAS	Control the value on Ext UAI1	A	5s	0-10V signal is inverted Pressure transmitter on fresh air is in short-circuit

OPERATING AND COMMISSIONING INSTRUCTIONS

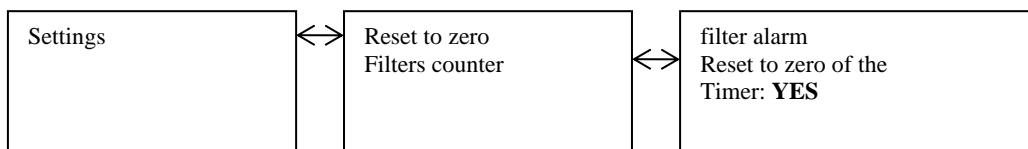
56	Sensor error extract VAR	Control the value on Ext UAI2	A	5s	0-10V signal is inverted Pressure transmitter on intake air is short circuited
59	CO2 sensor error	Control the Value on Ext AI4	A	5s	0-10V signal is inverted CO2 transmitter is in short-circuit
85	... in manual mode	Functions are modified in manual mode	A	5s	In Manuel Auto menu everything must be in Auto.
86	Time for service	Regular visit	C	5s	See chapter VI.3
87	... in manual mode	Functions are modified in manual mode	C	5s	In Manuel Auto menu everything must be in Auto.

VI.3. Acknowledge the default « timer service »

These settings require an access to the setting menu. You need the access rights to “service” level. Follow the instructions below.



Enter the code **2222** with directional arrows then press the OK button. Press the left arrow twice to reach the menus. In case of mistake press C button twice and start again.



An alarm occurs every 6 months to remind the maintenance visit. Enter YES to reset the counter to zero

OPERATING AND COMMISSIONING INSTRUCTIONS

VII. MAINTENANCE

VII.1. Mandatory maintenance

Outside the unit

Check the ducts, flexible sleeves, anti-vibrating plots; replace them if necessary. Check that all elements connected to the unit do not give any vibration to the unit.

Unit and Regulation

Check connection every year

Filtration

Do not damage the filters

Classification	Max pressure drop	Efficiency of the filtration EUROVENT	Reference	Washing* (Water + light detergent)	Aspiration* Exhaust*
Gravimetric	150Pa	EU4	G4	Limited (1 to 4 times)	YES
Opacimetric	200Pa	EU7	F7	NO	

Components	Periodicity of the cleaning			
	1 MONTH	3 MONTHS	6 MONTHS	12 MONTHS
<i>Filtration</i>	Blowing (for the G4filters)	Cleaning (for the G4filters)	Washing (for the G4filters)	Replacement Of the filters if needed

Rotative exchanger (12 month)

Check belt and change it if necessary

VII.2. Battery replacement

When low battery alarm starts and red LED is lighting, this indicates that the safety battery for the safeguard of the memory and clock is too low. Follow the instructions below to change them. A condenser keeps the safeguard and let the clock running for 10 minutes left after power cut. If the replacement of the battery takes less than 10 minutes, you will not have to reset the program and clock will work normally.

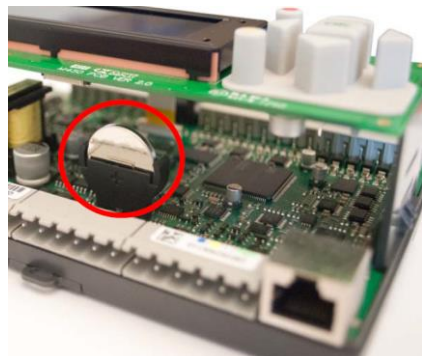
Replacement battery is a CR2032 type



Press the clips on each sides of the box with a little screwdriver to open the top of the box.

OPERATING AND COMMISSIONING INSTRUCTIONS

Location of the battery



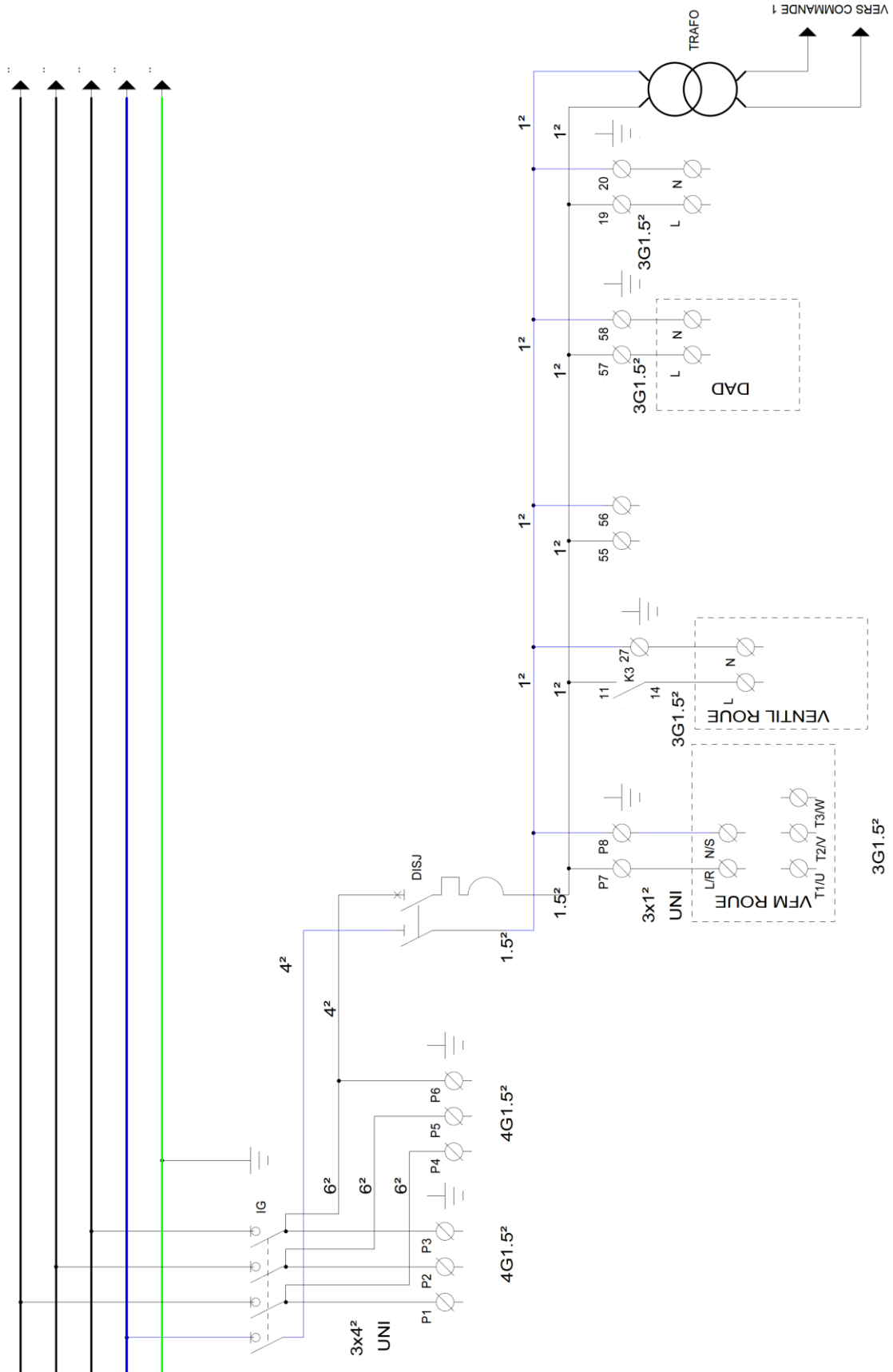
Grasp the battery and gently pull up until the battery leaves its slot.

Press firmly on the new battery to slide it into the holder. Note: Watch the direction of the battery to respect the polarity.

OPERATING AND COMMISSIONING INSTRUCTIONS

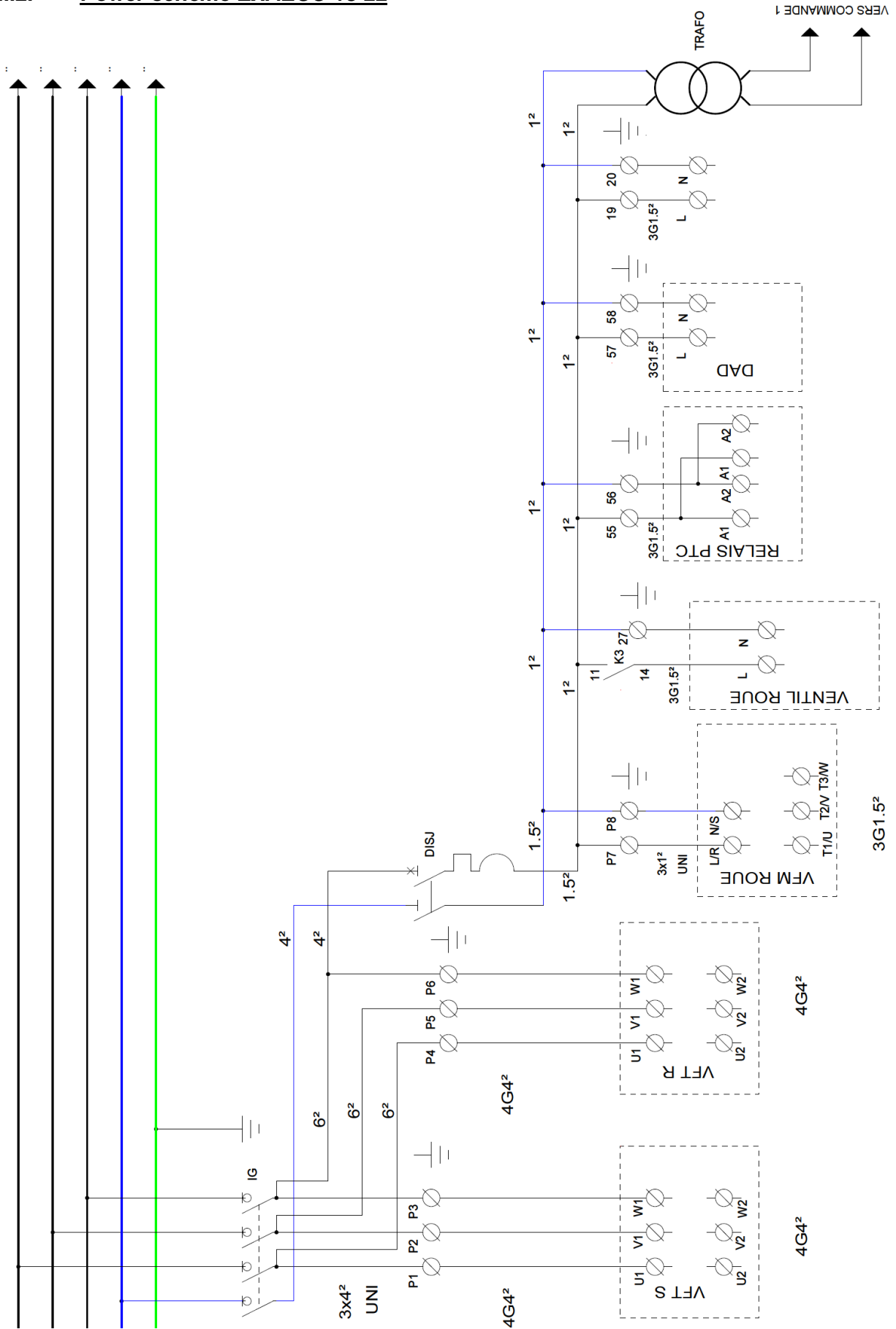
VIII. ANNEXES

VIII.1. Power scheme EXAECO 10



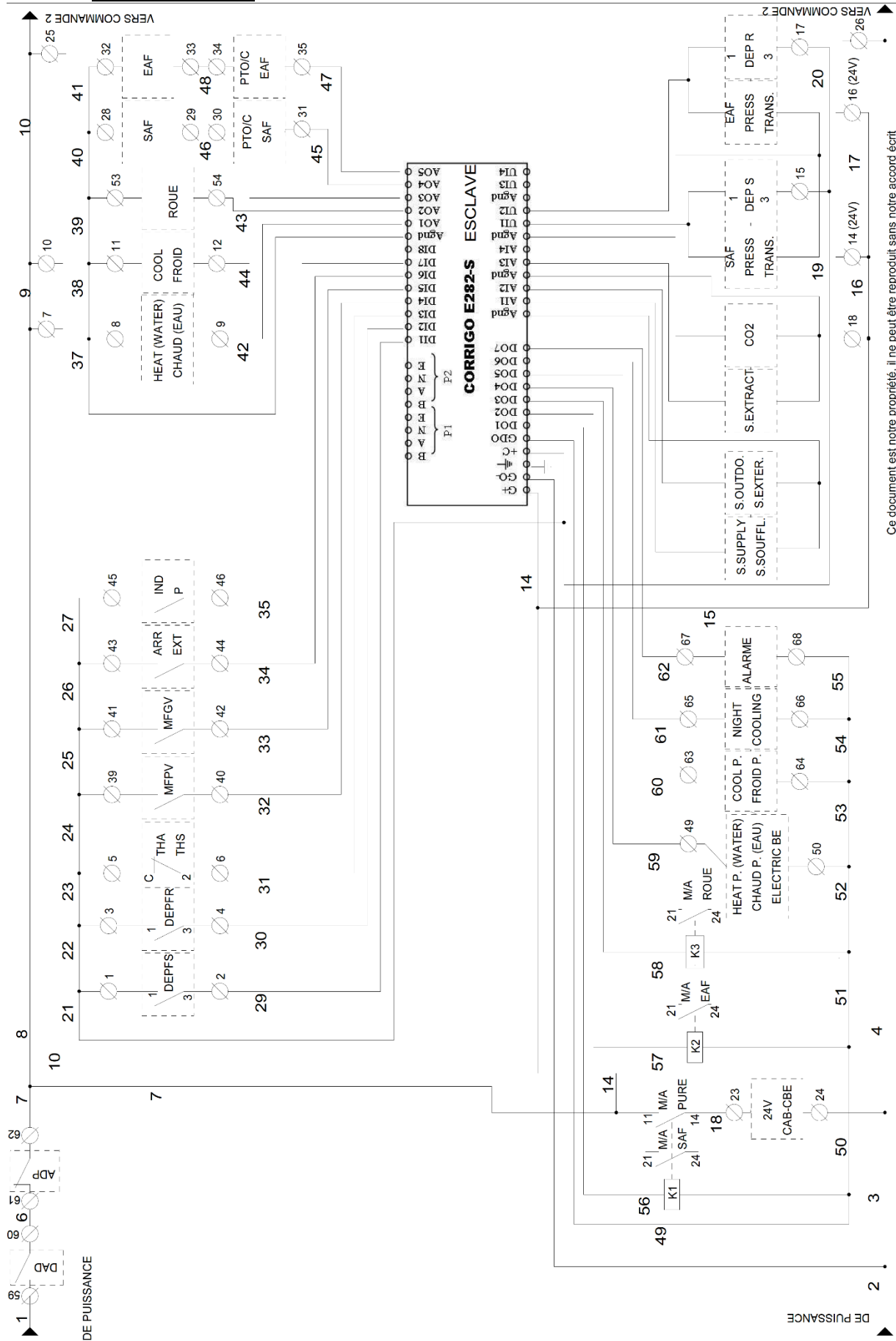
OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.2. Power scheme EXAECO 13-22



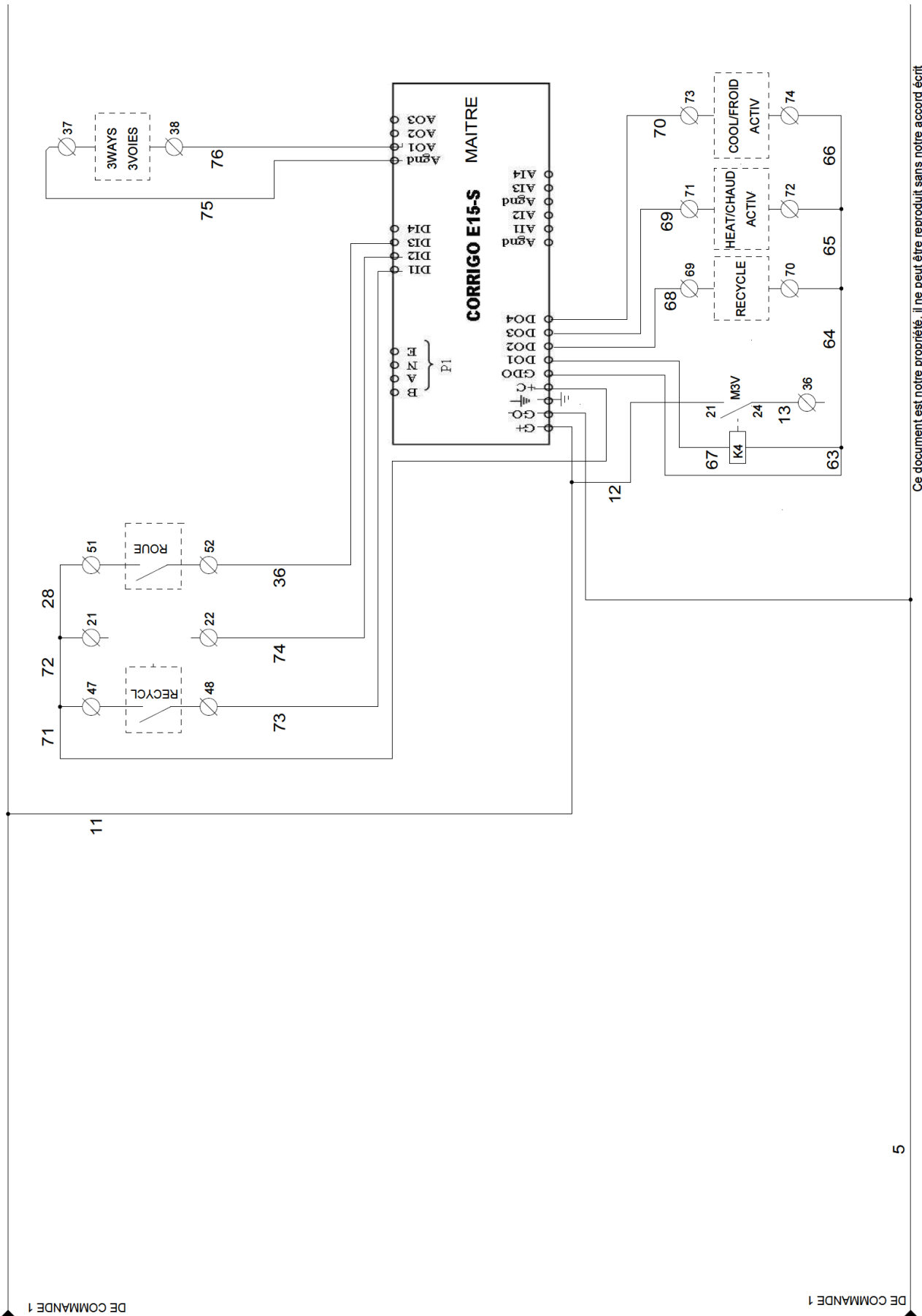
OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.3. Control scheme



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OPERATING AND COMMISSIONING INSTRUCTIONS



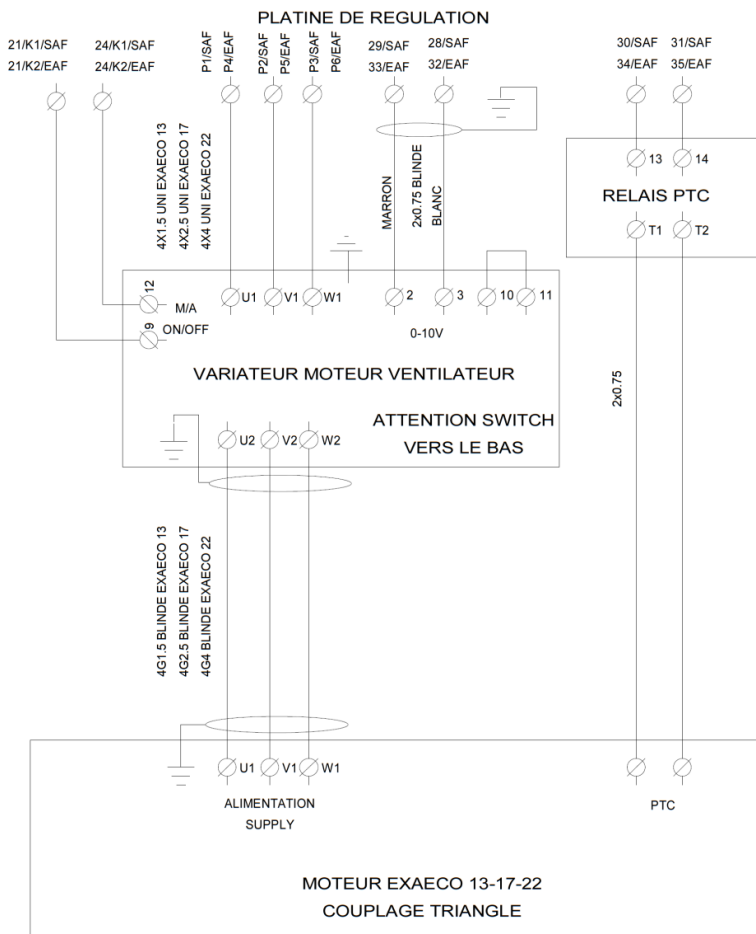
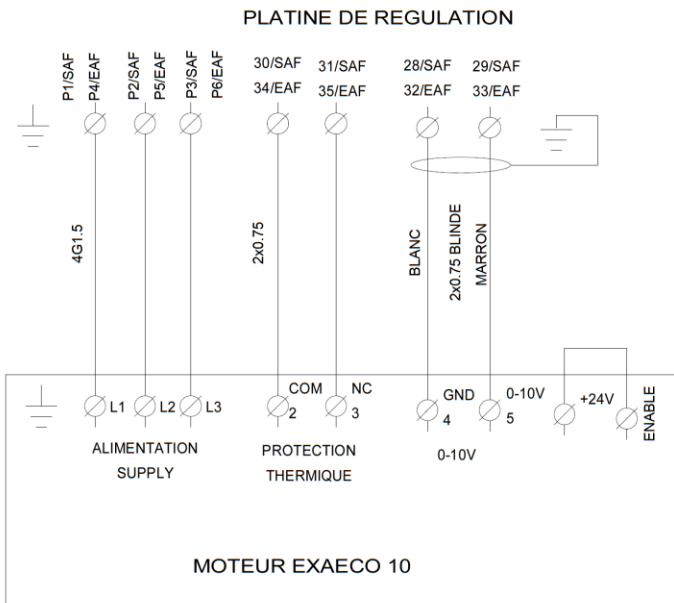
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DE COMMANDE 1

DE COMMANDE 1

OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.4. Motors wiring



Adaptation if using an ASC180 drive

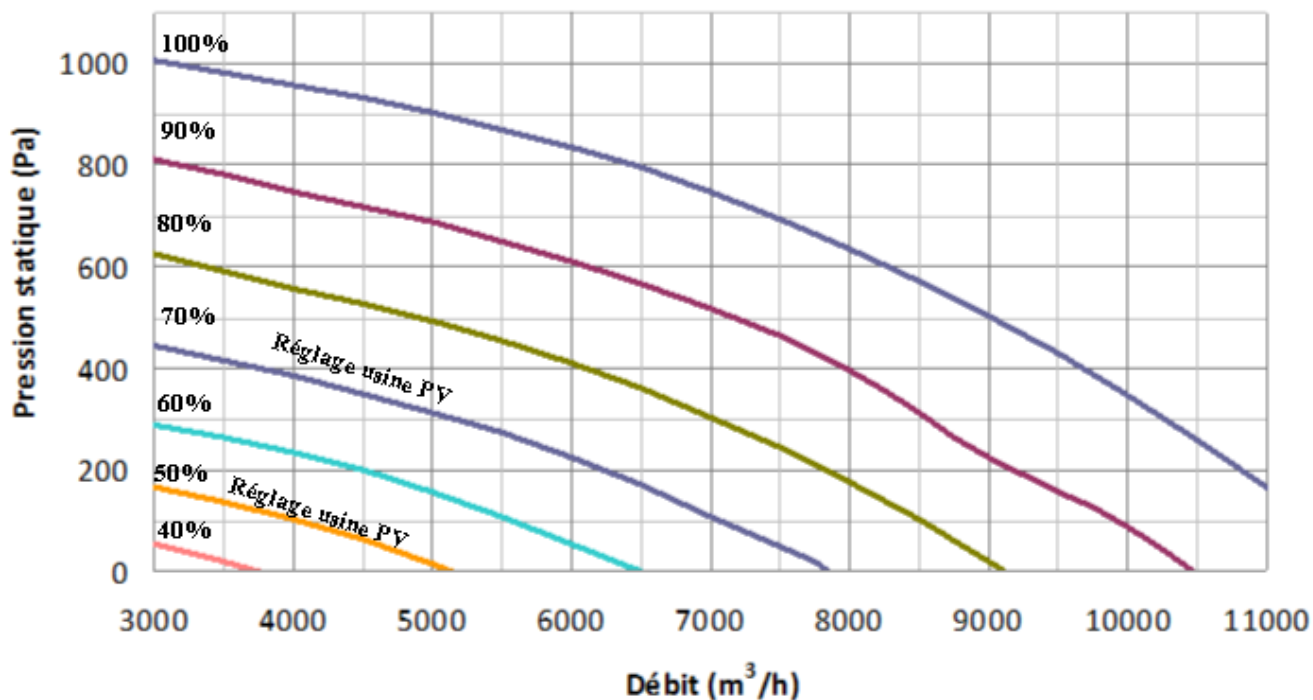
- Corresponding terminal numbers if drive ref ACS180

N° on diagram	U1	V1	W1	U2	V2	W2	2	3	10	11	9	12
N° for ASC180	L1	L2	L3	U	V	W	14	13	22	12	21	8

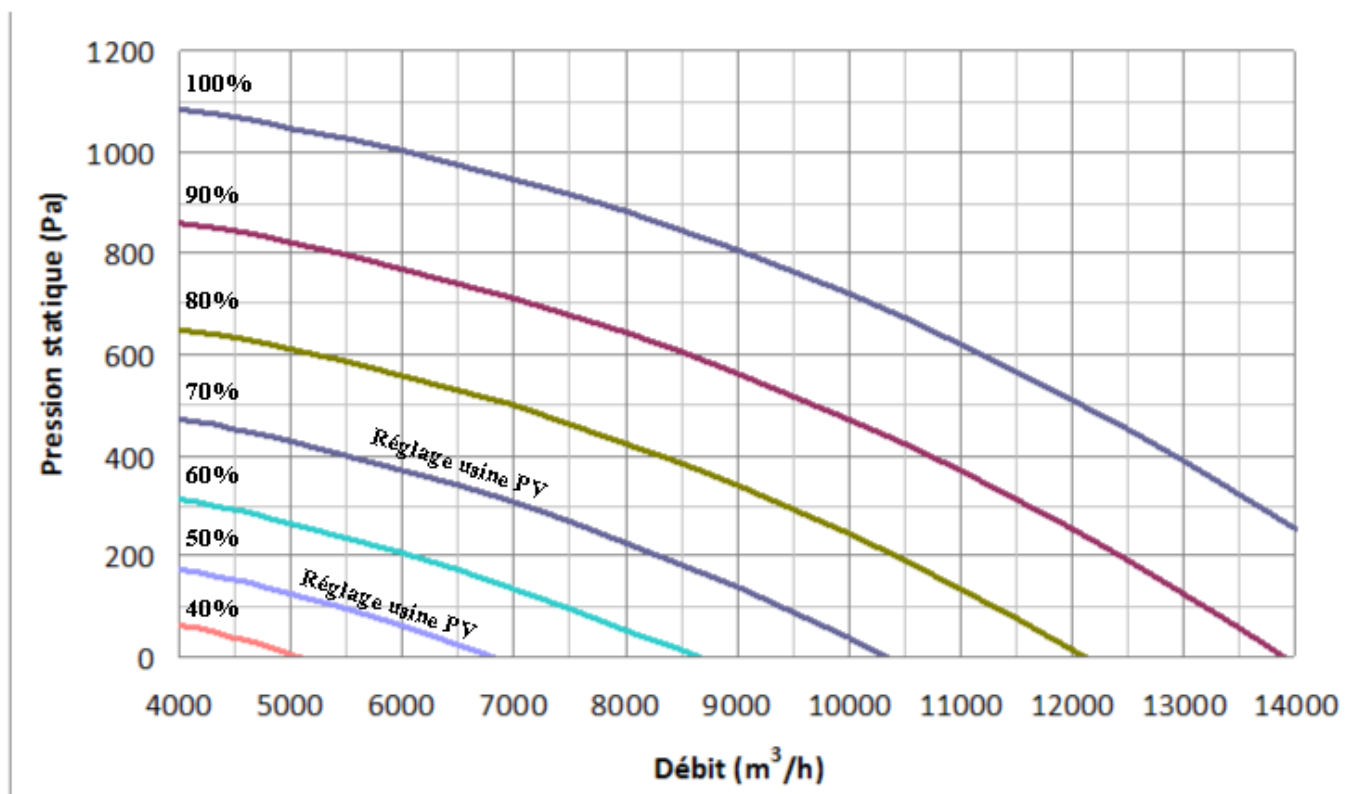
OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.5. Aeraulics diagram

VIII.5.a. EXAECO 10

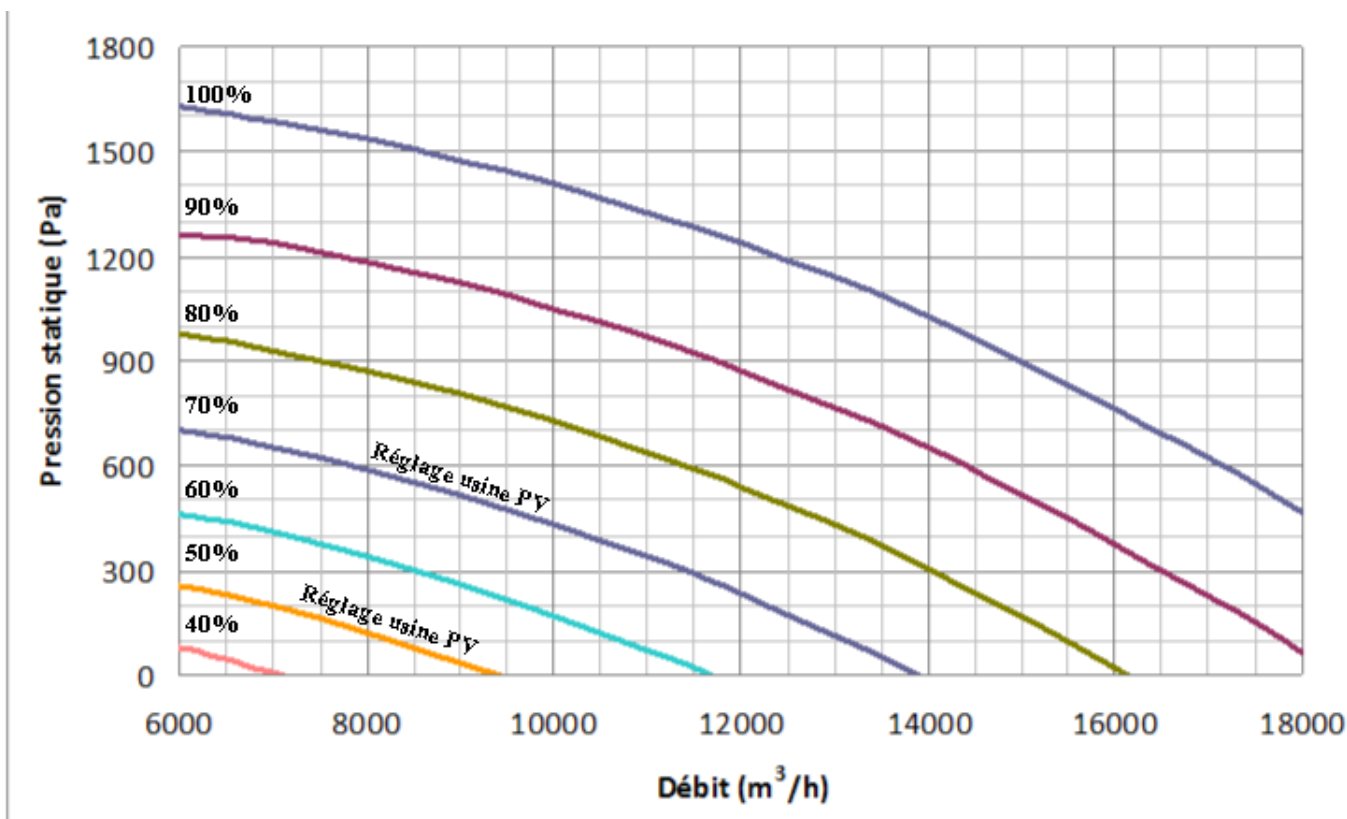


VIII.5.b. EXAECO 13

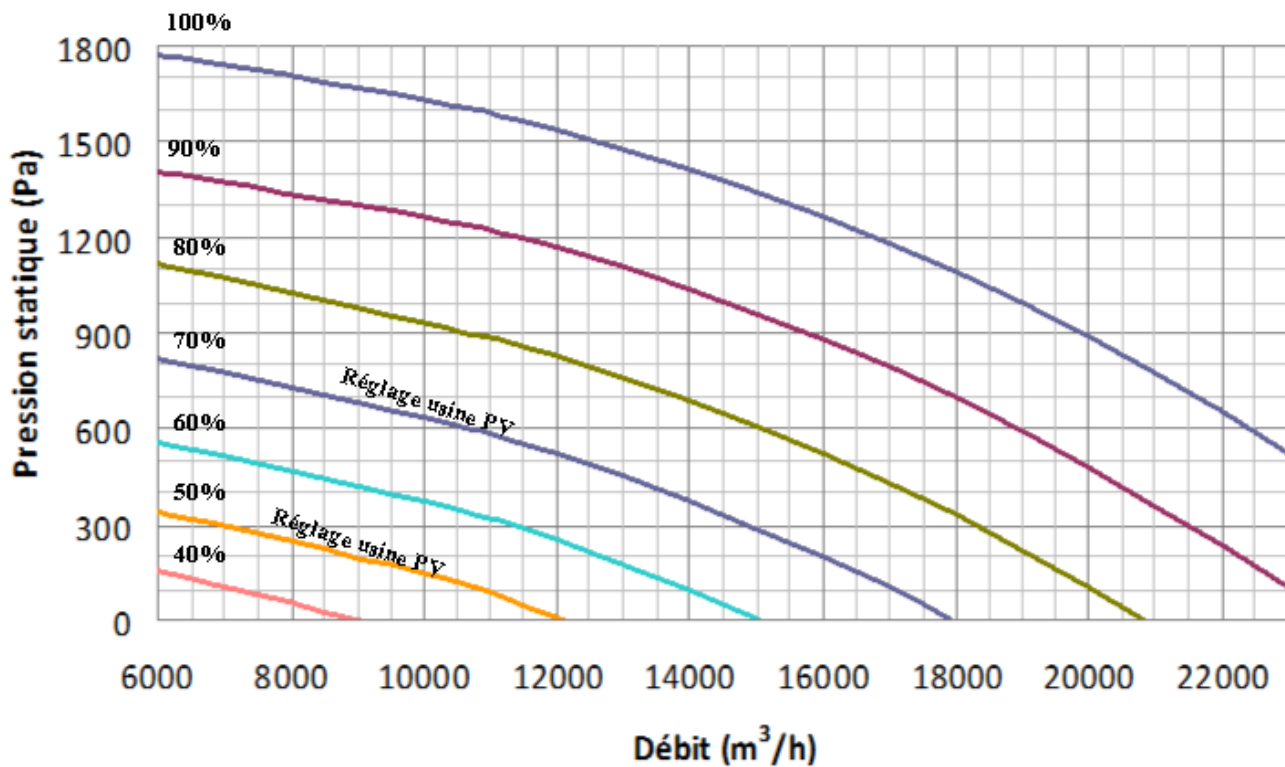


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VIII.5.c. EXAECO 17

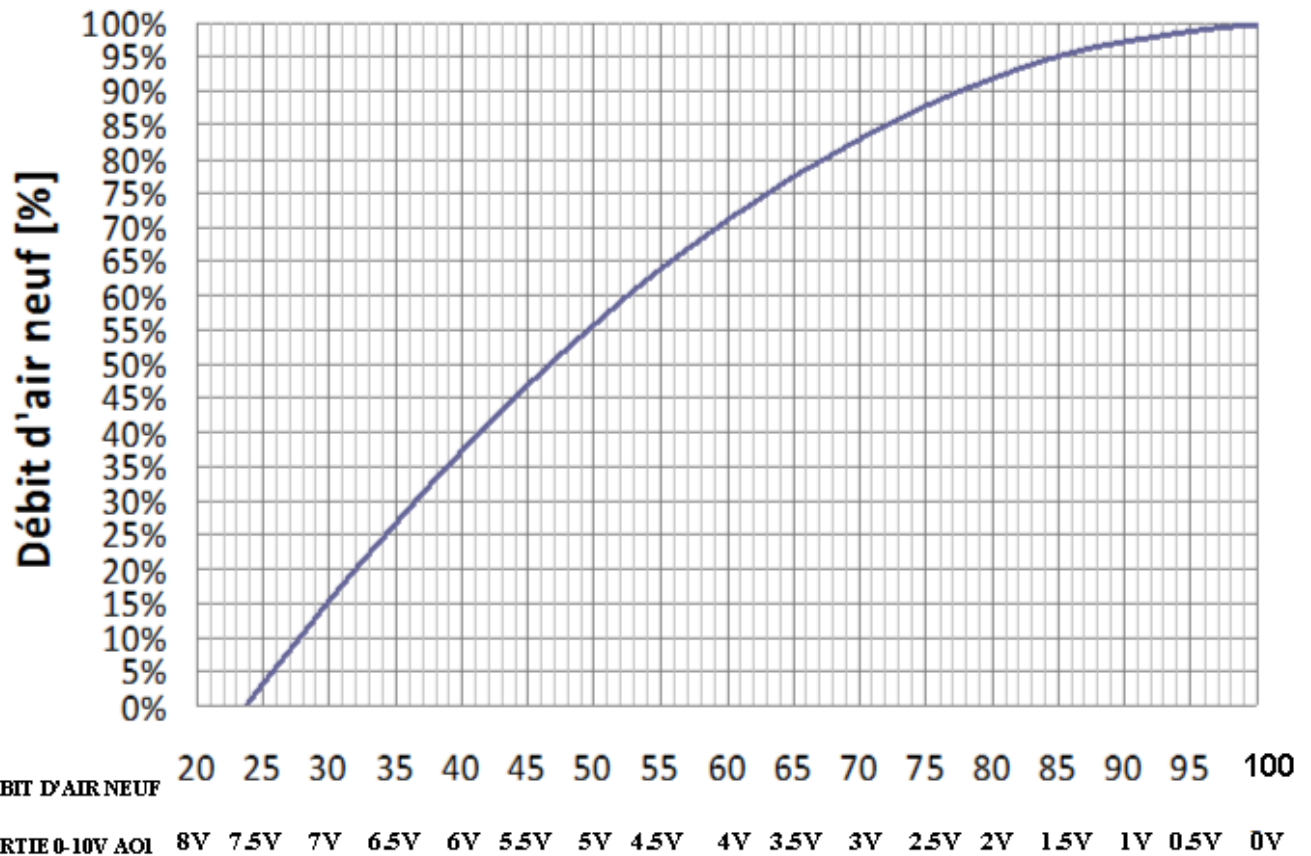


VIII.5.d. EXAECO 22

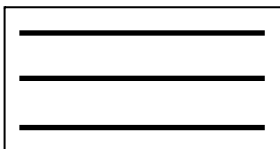


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VIII.5.e. Opening percentage curve of the FEE module



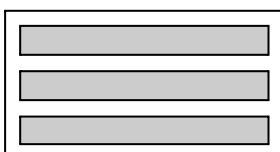
Open



In Standard the minimum% opening of the RMR and RMS registers is 30% or about 15% fresh air flow

100% opening of RMS fresh air and return air registers RMR = output AO1 = 0V = all fresh air

Close



0% opening of RMS fresh air and return air registers RMR = output AO1 = 10V = all recycling

30% opening of RMS fresh air and return air registers RMR = output AO1 = 7V = mixture

OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.6. Modbus and Bacnet tables

INPUT REGISTER

Function	Description	Exo type	Modbus Address	Bacnet Address
Unit operation state	Modbus: 0= Stop 1= Start 2= Start low speed 3= Start max speed 4= Start normal speed 5= In operation 8= CO2 operation 9= Night cooling operation 11= Stopped BACNET: 1= Stop 2= Start 3= Low speed start 4= Max speed start 5= Normal speed start 6= In operation 9= CO2 operation 10= Night cooling operation 12= Stopped	X	3	MSV,40003
Outdoor temperature	In °C	R	1	AV,40001
Operating time of the supply fan	In hours	R	4	AV,40004
Operating time of the extract fan	In hours	R	5	AV,40005
Supply air temperature	In °C	R	7	AV,40007
Extract air temperature	In °C	R	9	AV,40009
Supply air pressure	In Pa for LOBBY® version	R	13	AV,40013
Extract air pressure	In Pa for LOBBY® version	R	14	AV,40014
Supply air flow	In m3/h for MAC2® and QUATTRO® versions	R	15	AV,40015
Extract air flow	In m3/h for MAC2® and QUATTRO® versions	R	16	AV,40016
CO2	In ppm for DIVA® and QUATTRO® versions	R	17	AV,40017
Humidity	In %	R	23	AV,40023
Analog output	0-10V FEE module (3 ways module)	R	54	AV,40283
Analog output	0-10V Heating (hot water coil)	R	238	AV,40119
Analog output	0-10V Rotational heat exchanger	R	239	AV,40120
Analog output	0-10V Cooling	R	240	AV,40121
Analog output	0-10V SAF	R	241	AV,40122
Analog output	0-10V EAF	R	242	AV,40123

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HOLDING REGISTER

Function	Description	Exo type	Modbus Address	Bacnet Address	Factory value
Supply setpoint	Set in constant supply	R	1	AV,30001	18
Supply setpoint	Set in constant supply ext comp for out temp -20°C	R	10	AV,30010	25
Supply setpoint	Set in constant supply ext comp for out temp -15°C	R	11	AV,30011	24
Supply setpoint	Set in constant supply ext comp for out temp -10°C	R	12	AV,30012	23
Supply setpoint	Set in constant supply ext comp for out temp -5°C	R	13	AV,30013	23
Supply setpoint	Set in constant supply ext comp for out temp -0°C	R	14	AV,30014	22
Supply setpoint	Set in constant supply ext comp for out temp +5°C	R	15	AV,30015	20
Supply setpoint	Set in constant supply ext comp for out temp +10°C	R	16	AV,30016	18
Supply setpoint	Set in constant supply ext comp for out temp +15°C	R	17	AV,30017	18
Extract setpoint	Set in extract control	R	18	AV,30018	21
HS supply setpoint	In % for ECO and DIVA® versions	R	424	AV,30424	70
LS supply setpoint	In % for ECO and DIVA® versions	R	425	AV,30425	50
HS extract setpoint	In % for ECO and DIVA® versions	R	426	AV,30426	70
LS extract setpoint	In % for ECO and DIVA® versions	R	427	AV,30427	50
HS pressure supply setpoint	In Pa for LOBBY® version	R	24	AV,30024	150
LS pressure supply setpoint	In Pa for LOBBY® version	R	25	AV,30025	150
HS pressure extract setpoint	In Pa for LOBBY® version	R	26	AV,30026	150
LS pressure extract setpoint	In Pa for LOBBY® version	R	27	AV,30027	150
HS supply air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	28	AV,30028	xxx
LS supply air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	29	AV,30029	xxx
HS extract air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	30	AV,30030	xxx
LS extract air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	31	AV,30031	xxx
CO2 setpoint	In ppm for DIVA® and QUATTRO® versions	R	32	AV,30032	1000
Unit operation mode forcing	MODBUS 0= Manual stop 1= Manual low speed 2= Manual high speed 3= Auto				3
	BACNET 1= Manual stop 2= Manual low speed 3= Manual high speed 4= Auto	X	368	MSV,30368	4

OPERATING AND COMMISSIONING INSTRUCTIONS**INPUT STATUT REGISTER**

Function	Description	Exo type	Modbus Address	Bacnet Address
Active alarm	If 1 = ALARM	L	163	BV,20184
SAF fault	If 1 = ALARM	L	33	BV,20033
EAF fault	If 1 = ALARM	L	34	BV,20034
Rotational heat exchanger fault	If 1 = ALARM	L	61	BV,20061
Filter fault	If 1 = ALARM	L	38	BV,20038
Antifreeze fault	If 1 = ALARM	L	40	BV,20040
Fire fault	If 1 = ALARM	L	42	BV,20042
Overheating fault (electrical heater)	If 1 = ALARM	L	55	BV,20055
Battery fault	If 1 = ALARM	L	80	BV,20080

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