



 **OLIMPIA**  
**SPLENDID**  
HOME OF COMFORT

# Unico Tower 25 HP RVA

# UNICO TOWER

## Inverter 12 HP A+



Max power 2,95 Kw

Max power 3,10 kW



SILENT MODE



REMOTE CONTROL



POMPA DI CALORE



DESIGNED E MADE IN ITALY

Cooling



Heating



### FEATURES

Max Power: 2.9 kW

Available in the version: HP (Heat Pump)

Class **A**

R410A refrigerant gas\*

Body entirely in metal

Floor installation

Ease of installation: Unico can be installed from the inside in just a few minutes

Wireless wall control (Optional)

Backlit display with touch controls on the machine

Multifunction remote control with LCD display as standard

24h timer

### FUNCTIONS

**Economy function:** allows energy saving, automatically optimising the performance of the machine

**Fan only function**

**Dehumidification only function**

**Auto function:** modulates the operating parameters in relation to the room temperature.

**Sleep function:** gradually increases the set temperature and guarantees reduced noise for greater well-being at night.

**Silent Mode function:** mode that sets the machine to minimum noise. The compressor and fans are set to reduce the sound power down to -13 dB (A).

			Unico Tower Z5 RP RW
PRODUCT CODE			02153
EAN CODE			802183021530
Cooling power (min/max)		kW	1,5 / 2,9
Heating power (min/max)		kW	1,5 / 3,1
Nominal cooling capacity (1)	P rated	kW	2,4
Nominal heating capacity (1)	P rated	kW	2,3
Nominal power consumption for cooling (1)	PEER	kW	0,9
Nominal absorption for cooling (1)		A	4,9
Nominal power consumption for heating (1)	PCOP	kW	0,7
Nominal absorption for heating (1)		A	3,7
Nominal energy efficiency index (1)	EERd		2,6
Nominal efficiency coefficient (1)	COPd		3,1
Energy efficiency class in cooling (1)			A
Energy efficiency class in heating (1)			A
Energy consumption in "thermostat off" mode	PTD	W	29
Energy consumption in "standby" mode (EN 62301)	PSB	W	0,5
Energy consumption for double pipe appliances (1) cooling	QDD	kWh/h	0,9
Energy consumption for double pipe appliances (1) heating	QDD	kWh/h	0,7
Silent mode cooling capacity		kW	1,5
Silent mode heating capacity		kW	1,5
Supply voltage	V-F-Hz		230 / 50
Supply voltage (min/max)	V		198 / 264
Maximum power consumption in cooling mode (1)		kW	0,9/1,7
Maximum absorption in cooling mode (1)		A	3,5/8,5
Maximum power consumption in heating mode (1)		kW	0,4/1,4
Maximum absorption in heating mode (1)		A	3,9/6,20
Maximum power consumption with electric resistance heating		kW	-
Maximum absorption with electric resistance heating		A	-
Dehumidification capacity		l/h	10
Air flow rate in cooling environment (max/med/min)		m³/h	260/200/175
Air flow rate in heating environment (max/med/min)		m³/h	260/200/175
Air flow rate with electric resistance heating environment		m³/h	-
External air flow rate in cooling (max/min)		m³/h	486/230
External air flow rate in heating (max/min)		m³/h	486/230
Numero Velocità di ventilazione interna			3
Numero Velocità di ventilazione esterna			6
Diameter wall holes		mm	162
Electric resistance heating			-
Maximum remote control range (distance / angle)		m / °	8 / ±80°
Dimensions ( W x H x D ) (without packaging)		mm	470 x 1390 x 185
Dimensions ( W x H x D ) (with packaging)		mm	-
Weight (without packaging)		Kg	54
Weight (with packaging)		Kg	-
Internal sound pressure (Min Max) (2)		dB(A)	27-40
Internal sound power level (EN 12102)	LWA	dB(A)	57
Silent Mode sound pressure level		dB(A)	31
Silent Mode sound power level	LWA	dB(A)	44
Degree of protection provided by covers			IP20
Refrigerant gas*		Type	R410A
Global warming potential	GWP		2088
Refrigerant gas charge		kg	0,50
Maximum operating pressure		MPa	4,20
Power cable (N° pole x section mm²)			3 x 1,5

#### LIMITS OF OPERATING CONDITIONS

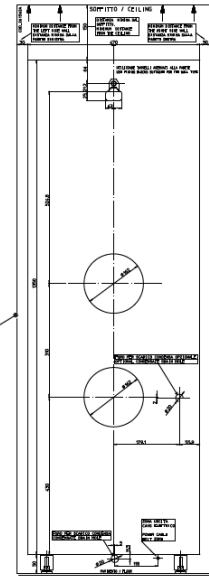
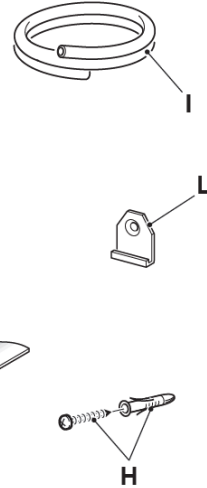
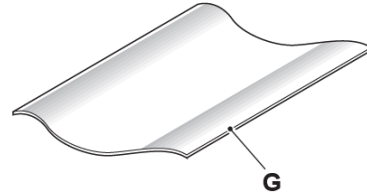
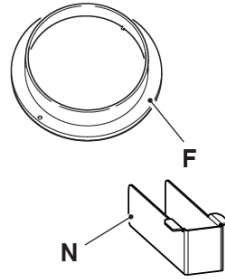
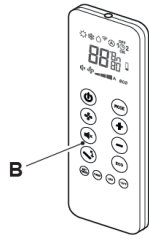
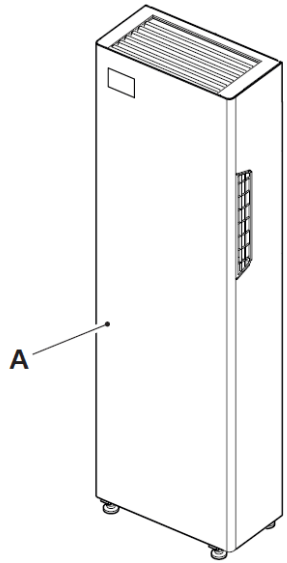
	Unico Tower Z5 RP RW	
	DB 35°C - WB 24°C	DB 18°C
Indoor ambient temperature	Maximum temperature in cooling	DB 27°C
	Minimum temperature in cooling	-
Outdoor ambient temperature	Maximum temperature in heating	DB 42°C - WB 32°C
	Minimum temperature in heating	DB 24°C - WB 18°C

(1) Test conditions: the data refer to the EN14511 standard - HEATING MODE: Temperature: outdoor environment DB 7°C / WB 6°C, indoor environment DB 20°C / WB 15°C COOLING MODE: outdoor ambient temperature DB 35°C / WB 24°C, indoor environment DB 27°C / WB 19°C

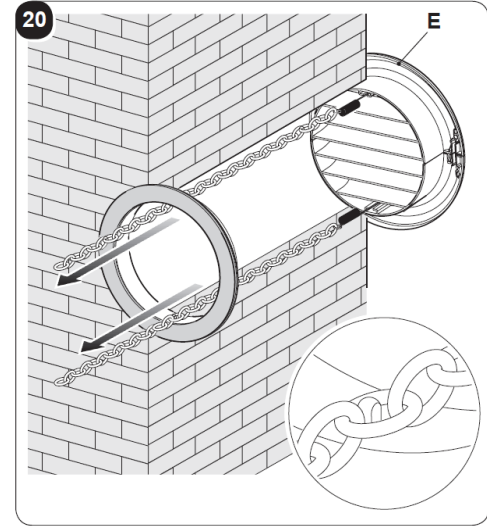
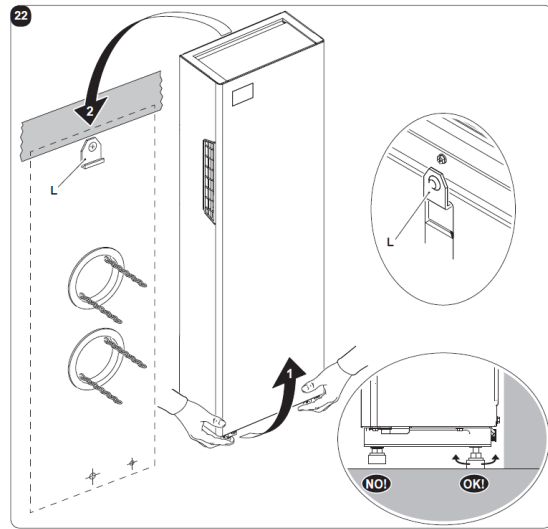
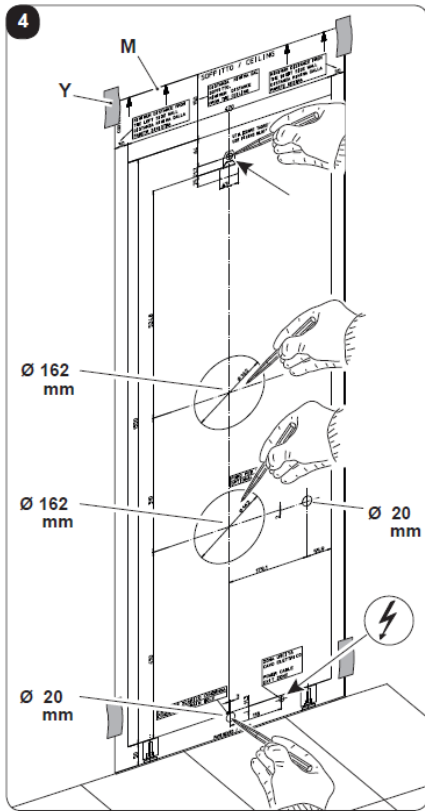
(2): Declaration of test data in a semi-anechoic chamber at a distance of 2m, minimum pressure in ventilation only.

\*: Hermetically sealed equipment containing fluorinated gas with GWP equivalent to 2088

# Installation

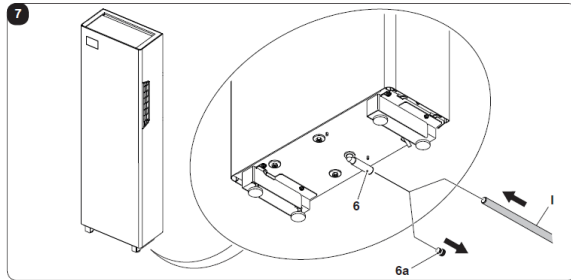


- A.** Appliance UNICO TOWER
- B.** Remote control
- C.** Use and maintenance booklets + warranty
- D.** Strip of adhesive isolating tape (x 2)
- E.** Air inlet and outlet external grids including chains and kit for installing the grids (x 2)
- F.** Internal flanges (x 2)
- G.** Sheet for wall pipes (x 2)
- H.** Kit of screws and anchor bolts
- I.** Condensation drain pipe
- L.** Wall anchoring bracket
- M.** Paper template to make holes
- N.** Adjustable feet aesthetic cover (x 2)

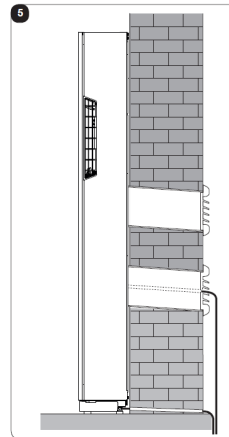
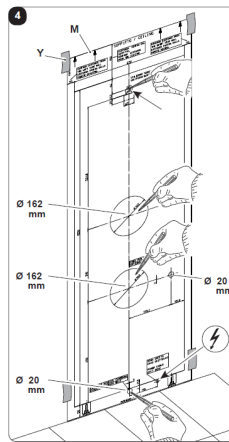


- Pay attention to the preparation before drilling the holes in the wall
- Use the anchoring bracket supplied
- Adjust the feet to the correct height so that the product rests firmly on the ground
- Use original Olimpia Splendid grids and accessories

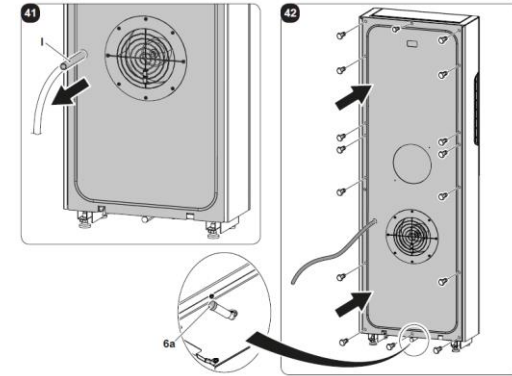
## A – Low connection



The unit comes from the factory configured for the connection of the condensate drain in the lower part. It will therefore be sufficient to remove the cap (6) and connect the drain.



## B – High connection



The unit has a second higher hole available for connecting the condensate drain. For detailed procedure follow the instructions indicated in the installation manual.

# Functional and construction description

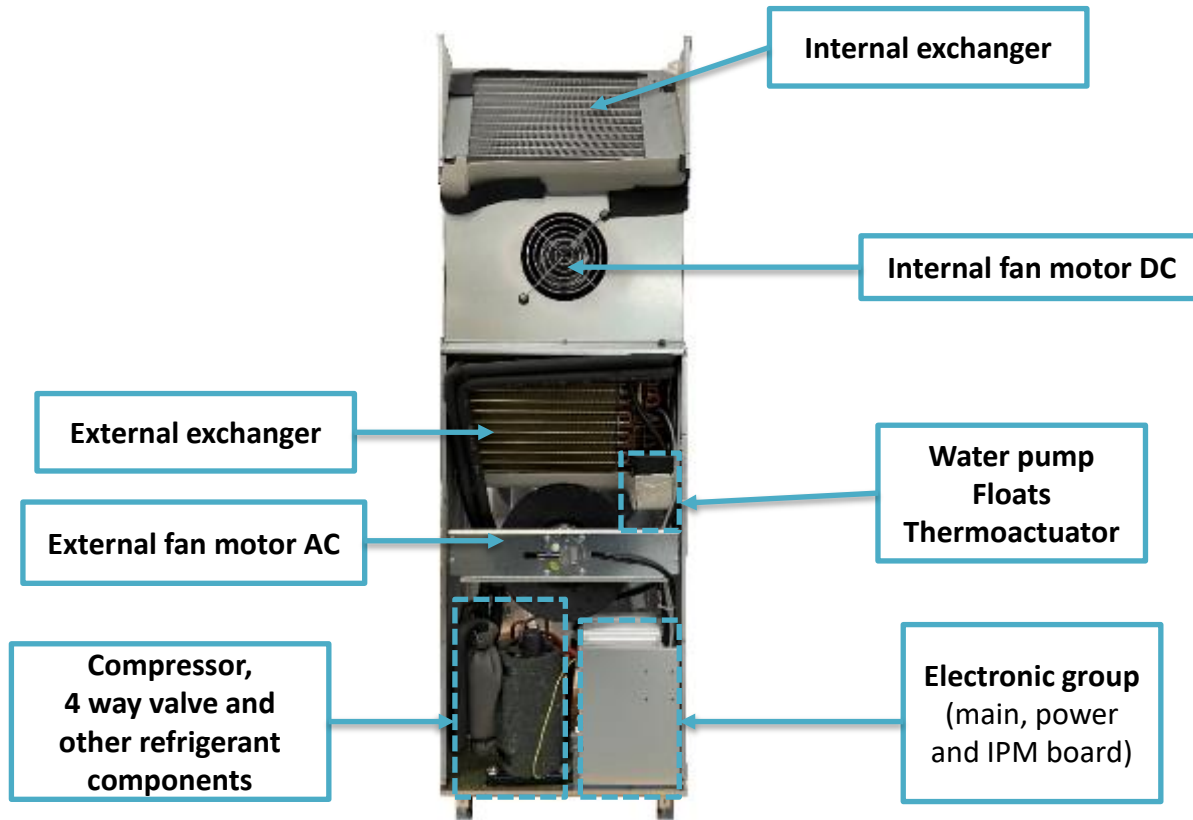
## COMPONENTS



Front view (without cover)



Front view (without front panels)



Internal exchanger

Internal fan motor DC

External exchanger

External fan motor AC

Compressor,  
4 way valve and  
other refrigerant  
components

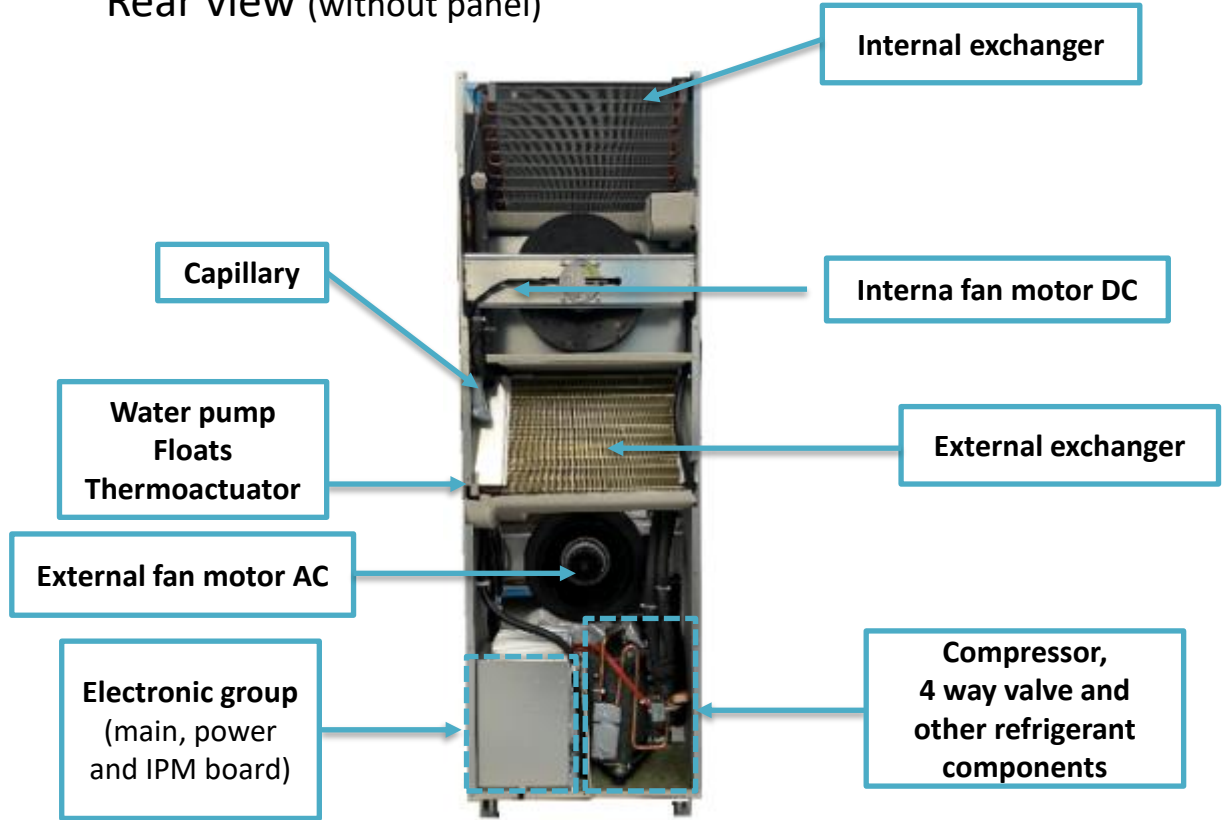
Water pump  
Floats  
Thermoactuator

Electronic group  
(main, power  
and IPM board)

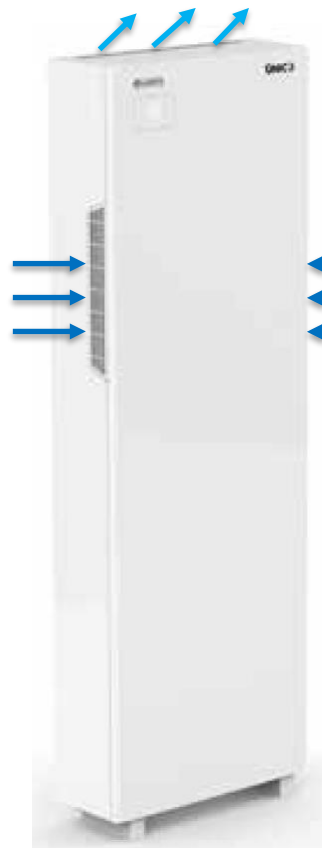
Rear view



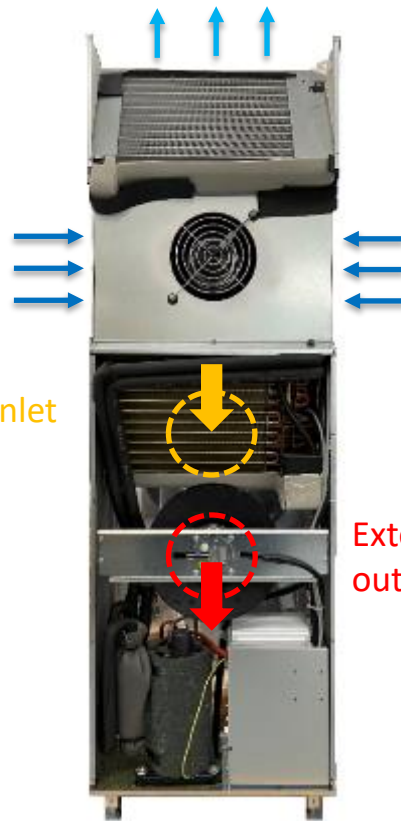
Rear view (without panel)



Room air outlet 12°C (es)

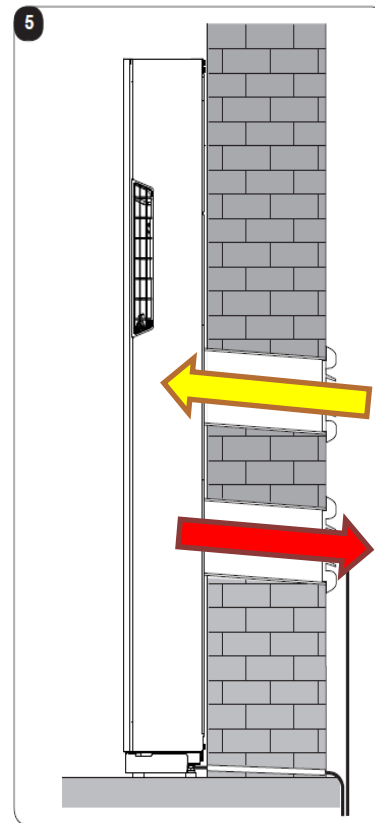


Room air inlet 28°C (es.)



External air inlet  
30°C (es.)

External air  
outlet 50°C (es.)



Room air outlet 45°C (es)



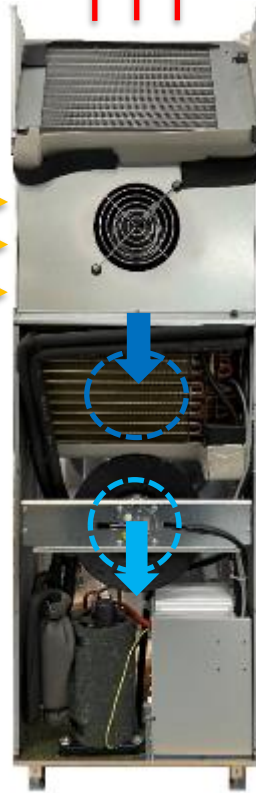
Room air inlet  
18°C (es.)



External Air inlet  
15°C (es.)

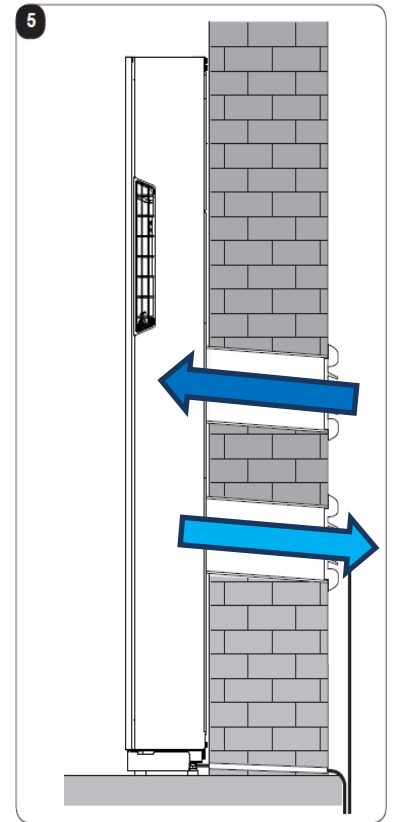


External air outlet  
5°C (es.)

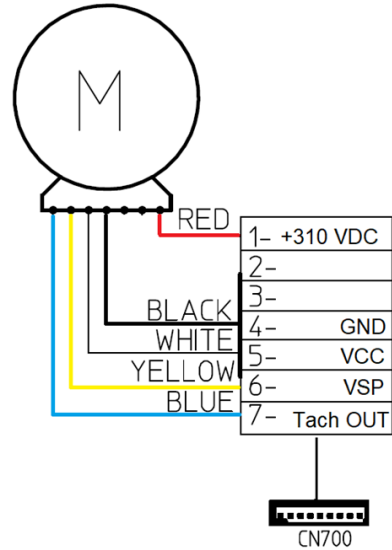


External air inlet  
15°C (es.)

External air outlet  
5°C (es.)

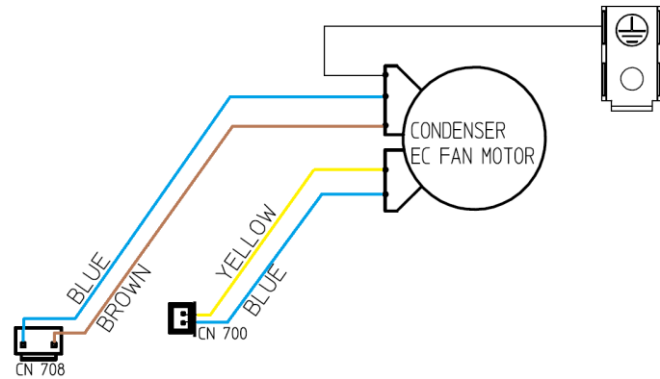


## INTERNAL FAN MOTOR DC



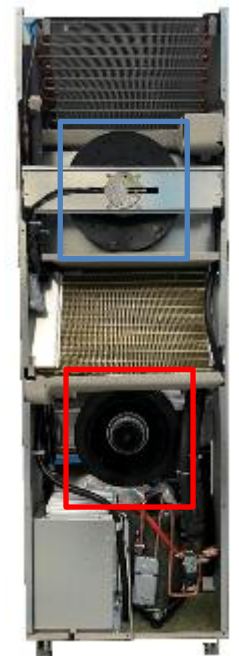
- GND - RED = 310 vdc
- GND - WHITE = 15 vdc
- GND - YELLOW = 1.5 - 6 vdc
- GND - BLUE = 0 - 15 vdc (OUTPUT)

## EXTERNAL FAN MOTOR AC



CN708 BLU – BROWN: 230 VAC power supply

CN700 BLU – YELLOW : 0 – 10 VDC speed management  
Minimum speed = 1 vdc (circa 360 rpm)  
Maximum speed = 9 vdc (circa 1700 rpm)

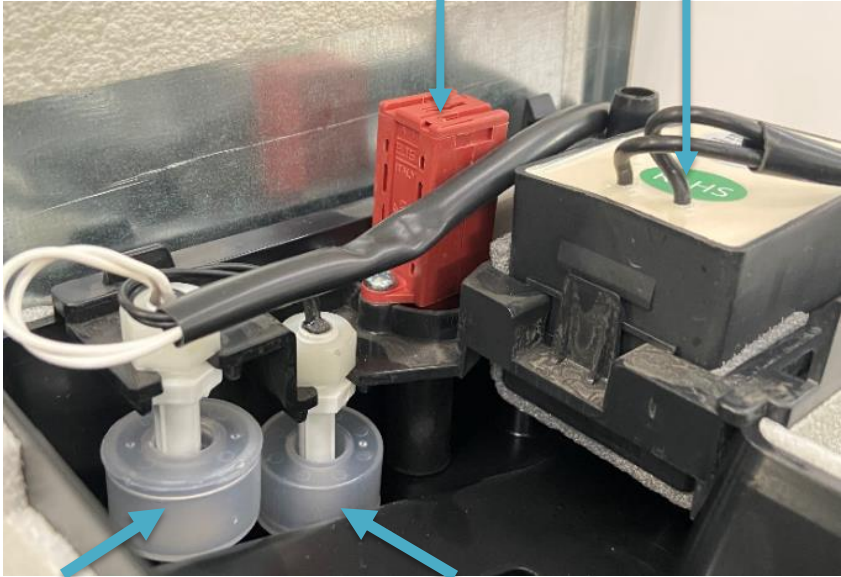


# Water disposal system



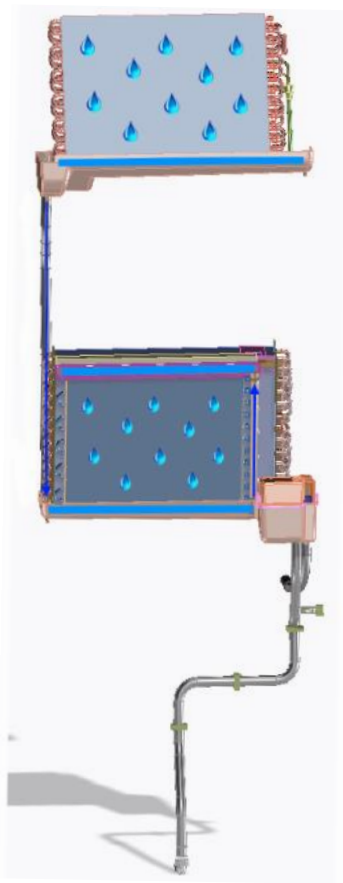
**THERMOACTUATOR  
230 VAC**

**DRAIN WATER PUMP  
230 VAC**



**HIGH LEVEL FLOAT (NC)**

**LOW LEVEL FLOAT (NA)**



### Pump activation conditions in cooling and dehumidification:

- Only with compressor ON
- If the low level float contact remains closed for less than 0.5 seconds the pump does not start
- If the low level float contact remains closed for at least 0.5 seconds, the pump is activated and stays on until the contact opens
- If the pump remains on continuously for more than 1 minute the thermo-actuator is activated until the pump is switched off (low level float contact opening) and for a minimum of 3 minutes. If at the end of the 3 minutes the pump is off, the thermo-actuator is also deactivated, otherwise it remains active until the pump stops.
- ALWAYS OFF IN HEATING AND ONLY VENTILATION

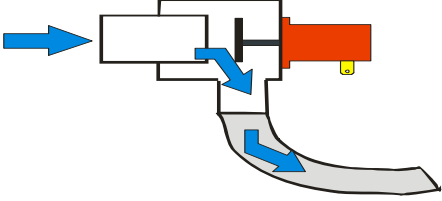
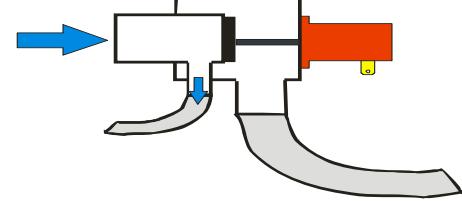
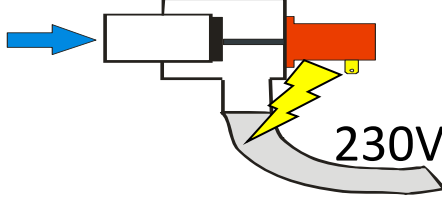
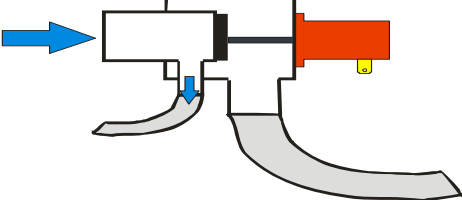
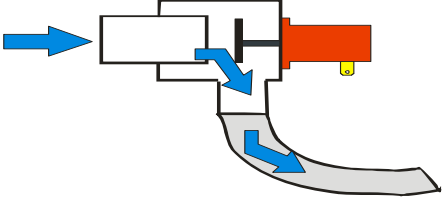
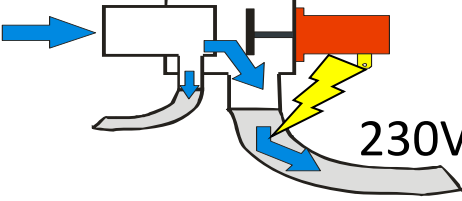


















Thermoactuator management:

- 1- Heating mode, ALWAYS.
- 2- If the automatic disposal system is not sufficient in cooling mode

HE HP / STAR HP / EASY HP	MODE	SKY HP / UNICO SMART / TWIN INVERTER / R / AIR (sia SF che HP) / UNICO PRO / UNICO TOWER
	OFF	
	COOLING	
	HEATING	

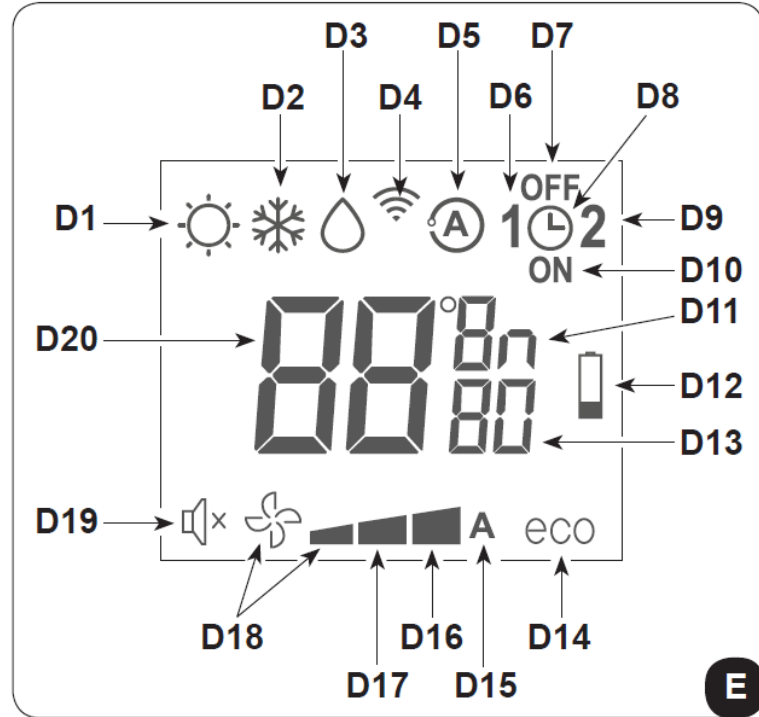
# User interface

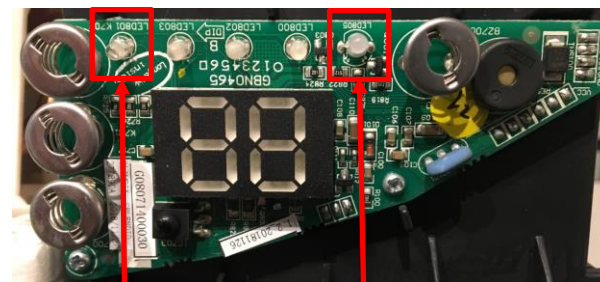
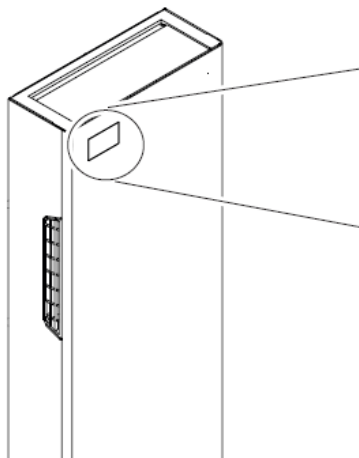
Display – Remote control

-  On / Off
-  Choice of modes
-  Ventilation speed
-  Temperature increase
-  Temperature decrease
-  Silent Mode
-  Oscillation flap
-  Economy Mode,  
reduced the absorbed current of 50%
-  Timer setting
-  On / Off Timer
-  On / Off Display and Led
-  Change format degrees °C/°F



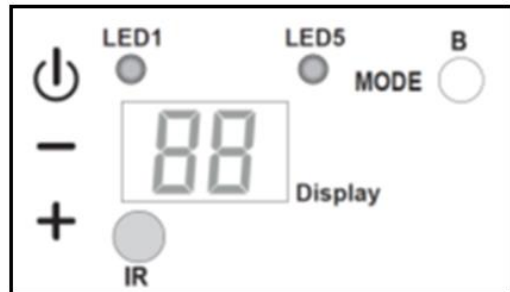
- D1** Heating mode
- D2** Cooling mode
- D3** Dehumidification mode
- D4** Transmission of the command in progress
- D5** Automatic mode
- D6** Program 1
- D7** Program switching off time setting
- D8** Clock/program setting
- D9** Program 2
- D10** Program switching on time setting
- D11** Temperature/time unit of measurement
- D12** Low battery notification
- D13** Minutes timer
- D14** ECO function enabled
- D15** Automatic ventilation speed
- D16** Maximum ventilation speed
- D17** Medium ventilation speed
- D18** Minimum ventilation speed
- D19** Function SILENT enabled
- D20** Desired temperature/clock/programming





Led 1  
Timer

● Heating  
● Cooling/  
Dehumidification  
○ Ventilation only/  
Stand-by



Others

IR Infrared receiver  
B Buzzer

+

Setpoint temperature increase (max 30°C)

-

Setpoint temperature decrease (min 16°C risc./18°C raffr.)

MODE

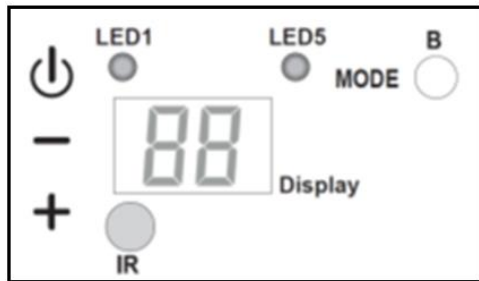
Operation mode selection and parameter setting:

- Short touch to select operation mode
- Long touch to enable parameter setting if in stand-by

⏻


ON/OFF button

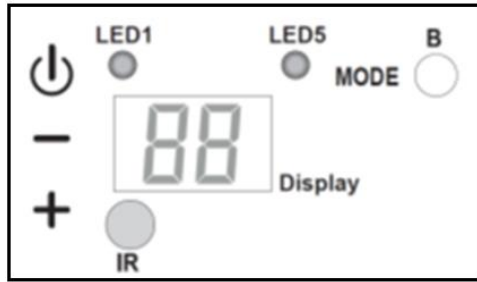
- Short touch to select fan speed
- Long touch for activation/deactivation



OPERATING CONDITIONS	DISPLAY	LED5	LED1
Stand-by	OFF	OFF	OFF
Cooling mode	18+30°C/64+86F	ON BLUE	X
Heating mode	16+30°C/61+86F	ON RED	X
Dehumidification mode	--	ON BLUE	X
Ventilation mode	--	OFF	X
Automatic mode	R	X	X
Maximum ventilation speed	H1	X	X
Medium ventilation speed	ME	X	X

>>>


OPERATING CONDITIONS	DISPLAY	LED5	LED1
Minimum ventilation speed	Lo	X	X
Automatic ventilation speed	Ru	X	X
Timer enabled	X	X	ON
 Filter dirty report*	F1	X	X
Energy Boost contact opening (par. PI>0)	E	X	X
System Enable contact opening (par. PI=0)	P	OFF	OFF
Keypad locked	BL	X	X
Top/Bottom wall configuration parameter	PO	OFF	OFF
Ceiling installation	UP	OFF	OFF
Floor installation	DO	OFF	OFF



### Special functions:



Alarm filter reset

 and **MODE** To be pressed simultaneously and for an extended period of time (at least 5 seconds) to set to zero the filter dirty report



Key locked

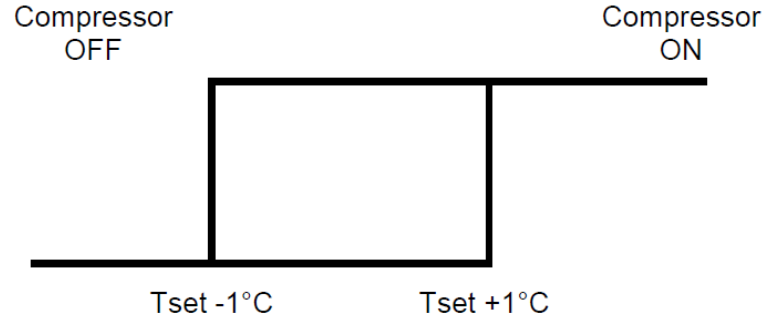
**+** and **-** To be pressed simultaneously for at least 5 seconds to enable/disable the keypad lock function



# Electronics

Functions, logics and protections

**Compressor:** modulation and shutdown in relation to setpoint and room temperature



**Internal fan auto mode:**

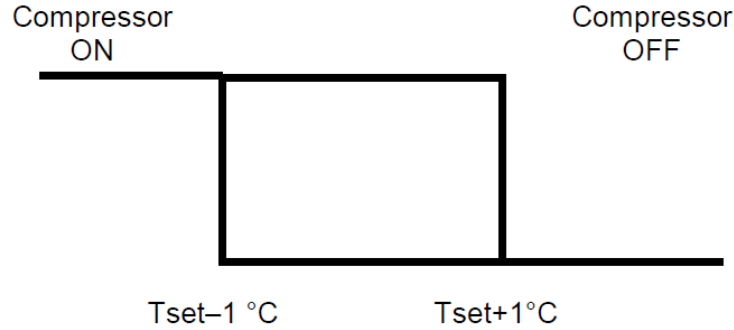
- Room temperature  $< T_{set} + 1^{\circ}\text{C}$  MINIMUM SPEED
- $T_{set} + 1^{\circ}\text{C} < \text{Room temperature} < T_{set} + 3^{\circ}\text{C}$  MEDIUM SPEED
- Room temperature  $> T_{set} + 3^{\circ}\text{C}$  MAXIMUM SPEED

**External fan:**

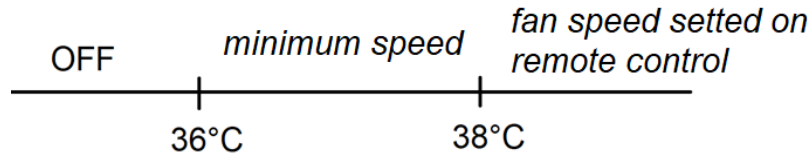
The external fan speed is calculated by the IPM board in relation to the external air and external exchanger temperature

**4 way valve:** NOT POWERED

**Compressor:** modulation and shutdown in relation to setpoint and room temperature



**Internal fan:** minimum internal exchanger temperature control



**External fan:**

The external fan speed is calculated by the IPM board in relation to the external air temperature

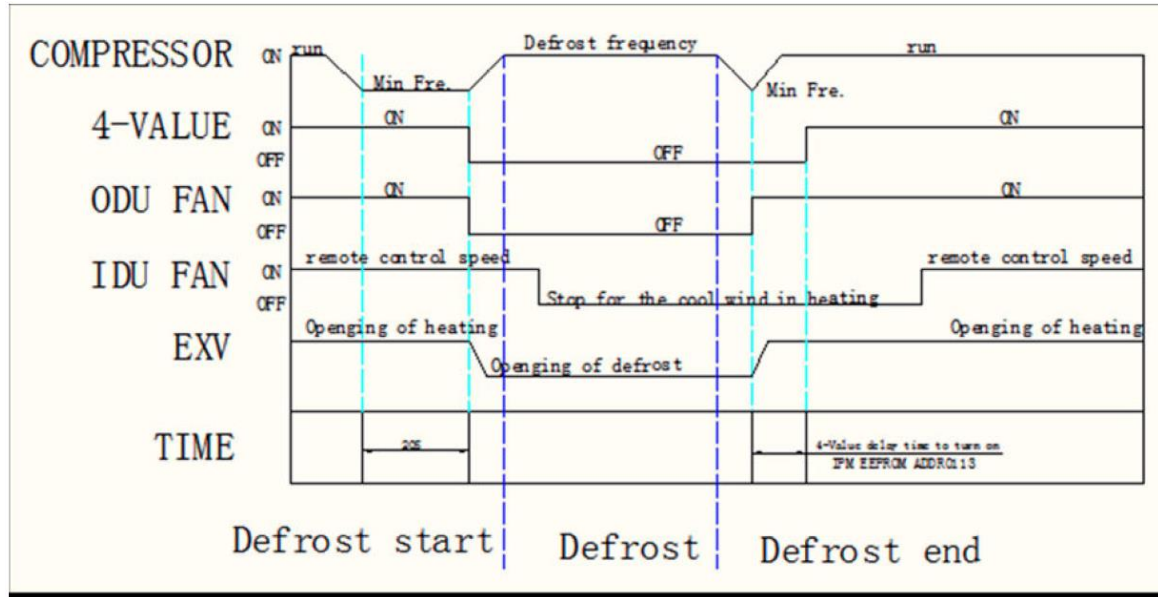
**4 way valve:** POWERED

### Start conditions:

- External temp.  $> 5^{\circ}\text{C}$  e Exchanger temp.  $< -3^{\circ}\text{C}$
- $5^{\circ}\text{C} > \text{External temp.} > -1^{\circ}\text{C}$  e Exchanger temp.  $< -10^{\circ}\text{C}$
- $-1^{\circ}\text{C} > \text{External temp.} > -8^{\circ}\text{C}$  e Exchanger temp.  $< -13^{\circ}\text{C}$
- External temp.  $< -8^{\circ}\text{C}$  e Exchanger temp.  $< -15^{\circ}\text{C}$
- External temp.  $< -8^{\circ}\text{C}$  and compressor is on for at least 120 min

### Stop conditions:

- If after 1 minute the exchanger temperature is higher than  $12^{\circ}\text{C}$  the function ends immediately
- After 10 minutes with any condition





## **Silent mode** (from remote control)

Internal fan at minimum speed

Compressor at “silent frequency” (not at the minimum)

External fan at 30 % of the maximum speed (4.2 v 900 rpm)

! All the protections remain active



## **ECO mode** (from remote control)

The power capacity will be reduce at 50% (almost 3,5 A)

! All the protections remain active

## 2.5 - TOP/BOTTOM INSTALLATION CONFIGURATION

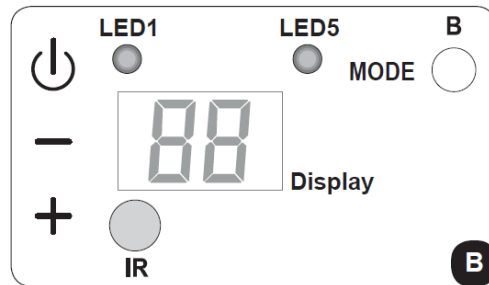
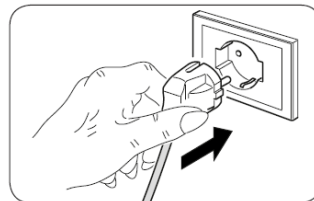
The unit can be installed both in the lower part (adjacent to the floor) and in the upper part (adjacent to the ceiling) of the wall.

Depending on installation (ceiling or floor) it is sufficient to change the electronic configuration so as to optimize the aperture angles of the air outlet flap.

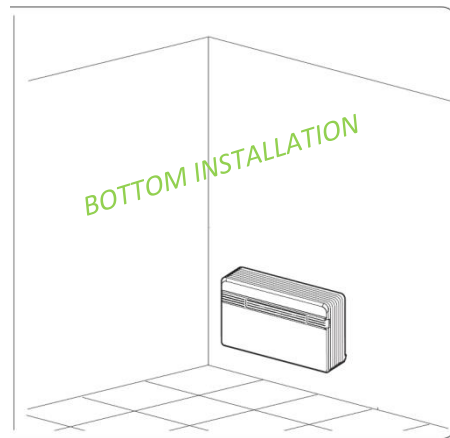
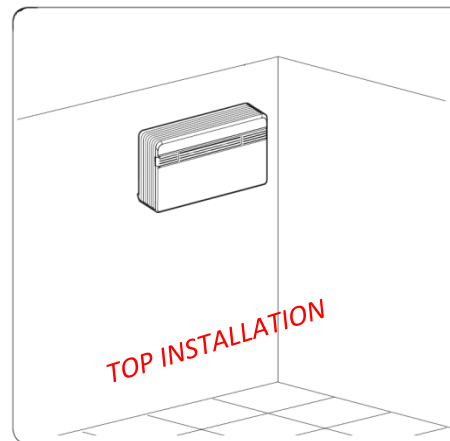
### 2.5.1 - Electronic configuration for lower or upper wall installations

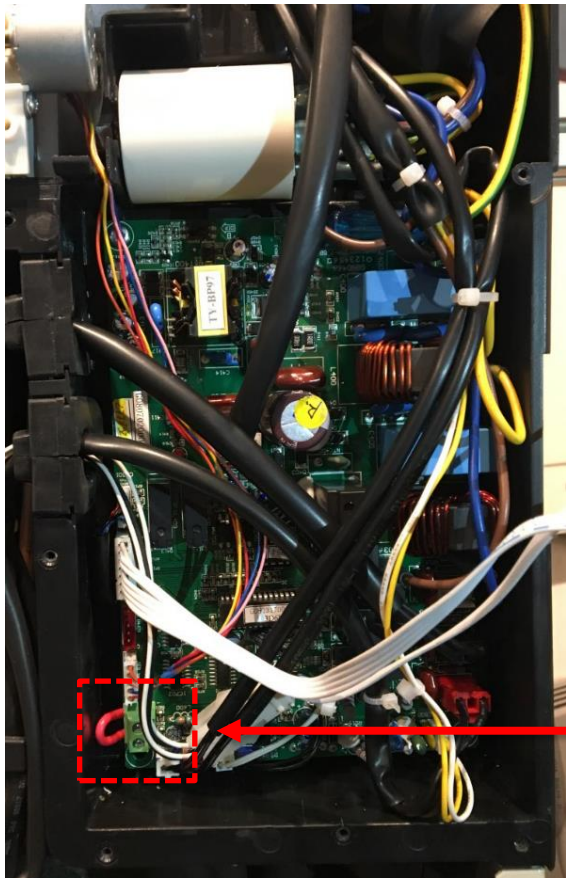
Work as follows (see fig. B):

- Insert the plug in the power socket to power the air conditioner, then make sure it is switched to stand-by mode.
- Press the key **MODE** for more than 10 seconds on the control panel, until an acoustic signal is emitted.
- The display shows parameter .
- Release the key **MODE** and press it again.
- The display shows configuration (ceiling installation) or (floor installation).
- Press keys **+** or **-** to select the desired configuration.
- Press **MODE** to confirm.
- Press the key to exit from the configuration.



**UPPER WALL CONFIGURATION DETERMINES AN AUTOMATIC CORRECTION OF THE ROOM TEMPERATURE EQUAL TO 3°C IN HEATING MODE.**





## SYSTEM ENABLE = Room contact

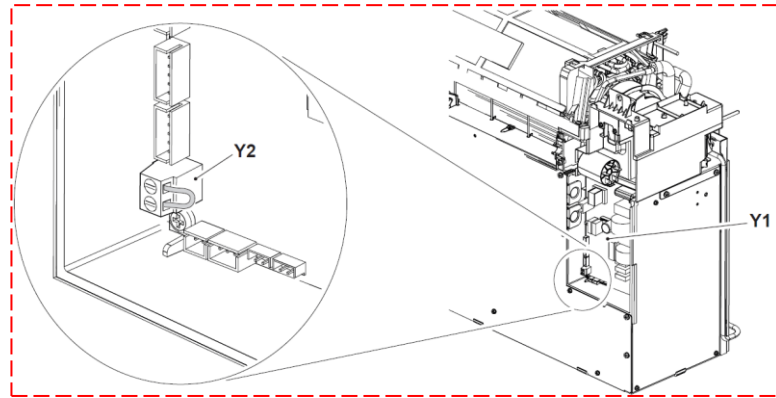
Contact open: unit in stand-by, it cannot be activated by remote control or by touch keyboard

Contact closed: the unit is ready and can be activated

## ENERGY BOOST = Remote setpoint increase/decrease

Contact open: normal setpoint setted by remote control or keyboard

Contact closed: the setpoint is increased in heating and reduced in cooling by a specific off-set settable by a parameter



**Y2 : dry contact**

**Attention: do not use  
a cable longer than  
10 meters**

## 2.6 - ENERGY BOOST/SYSTEM ENABLE CONTACT INPUT

The input located on the terminal (Y2) of the main board (Y1) can be used to activate the functions **ENERGY BOOST** or **SYSTEM ENABLE** of the air conditioner (fig. 46).

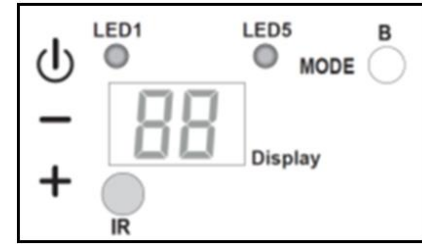
Configuration and use of the input **ENERGY BOOST** or **SYSTEM ENABLE**:

- a. Insert the plug in the power socket to power the air conditioner, then make sure the latter is switched to stand-by mode.
- b. On the control panel, press the key **MODE** for more than 10 seconds until an acoustic signal is emitted.
- c. The display shows the parameter **P0**.
- d. Release the key **MODE** and press it again until you select the parameter **PI**.
- e. Release the key **MODE** and press it again for 2 seconds.
- f. Press keys **+** or **-** to select the desired configuration.
- g. With value **PI = 0**, the input works from **SYSTEM ENABLE**.  
When the contact opens, the air conditioner is forced in stand-by mode.  
When the contact closes, the air conditioner restores its previous operation condition.
- h. With value **PI ≠ 0**, the input works from **ENERGY BOOST**.  
When the contact opens, the display shows the code **E**, desired temperature is reduced by **PI** °C if the air conditioner is in cooling mode or increased by **PI** °C if the air conditioner is in heating mode.  
When the contact closes, the air conditioner restores its previous operation condition  
The input **ENERGY BOOST** has no effect when the air conditioner is in fan, dehumidifier or automatic modes.



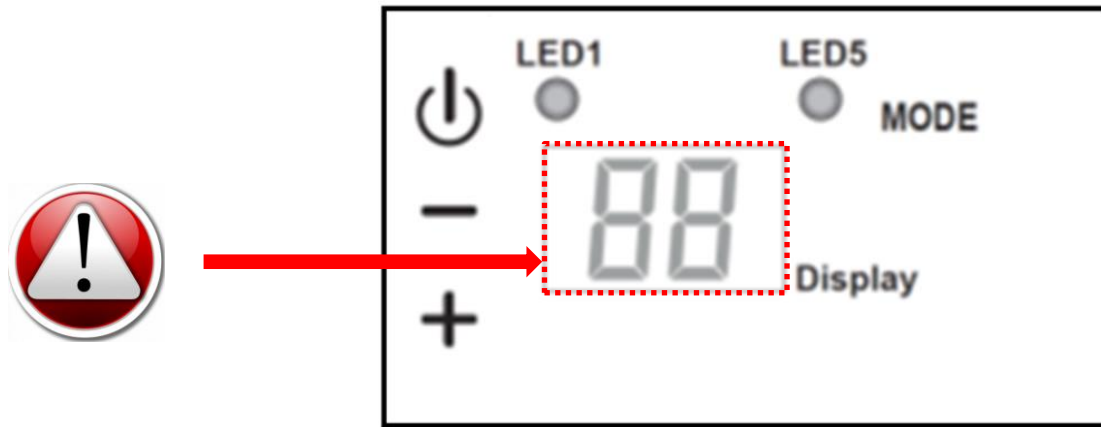
## AutoTest Mode (from touch display)

- 1 - In stand-by mode, keep + and MODE buttons pressed for at least 5 seconds
  - 2 - After 5 seconds the buzzer emits beeps (even if the 2 keys have already been released)
  - 3 - The LEDs light up 1 at a time from LED 1 to LED 5 (from red to blue)
  - 4 - The display shows 88 and then At
  - 5 - The auto test mode is activated
  - 6 - The flap opens and the internal and external fan are activated at maximum speed
  - 7 - 4-way valve, condensate drain pump and EXV electronic expansion valve are activated
  - 8 - The compressor starts, rises by 25 Hz and then stops
  - 9 - The flap closes and stops then internal and external fan
- You can interrupt the Autotest function at any time by pressing the On-Off button
  - During the function the unit does not respond to the functions given by the remote control



# Alarms

## Alarm codes & Troubleshooting

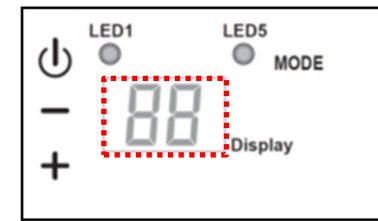


When an alarm occurs the compressor stops and the display shows an alarm code

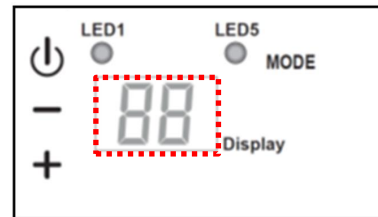
The alarm can be automatically reset in 3 minutes (if the conditions are normal) or by a power off and power on of the unit (from the switch)



On the IPM board there are two LEDs that show the same alarm shown on the display (nr. Flashes red led = tens - nr. Flashes yellow led = unit)


IPM board alarms	DISPLAY	LED 5	LED 1
External air temperature sensor failure	1	OFF	OFF
External exchanger temperature sensor failure (Tehx)	2	OFF	OFF
Compressor discharge temperature sensor failure	3	OFF	OFF
Compressor current protection	4	OFF	OFF
IPM – IDU Board communication error	5	OFF	OFF
Power supply overcurrent	6	OFF	OFF
No current compressor detection	7	OFF	OFF
Under/over voltage DC	8	OFF	OFF
Current failure	9	OFF	OFF
External exchanger temperature too high (HTE)	10	OFF	OFF
IPM Protection	11	OFF	OFF
EEPROM error	12	OFF	OFF
Compressor discharge temperature too high	13	OFF	OFF



IDU Board alarms	DISPLAY	LED 5	LED 1
Internal air temperature sensor failure (T.room)	14	OFF	OFF
Internal exchanger temperature sensor failure (Tihx)	15	OFF	OFF
Internal exchanger temperature too low (LT)	16	OFF	OFF
Internal exchanger temperature too high (HTI)	17	OFF	OFF
IPM – IDU board communication alarm	5	OFF	OFF
AC Zero crossing (not present)	18	OFF	OFF
Internal fan motor failure	19	OFF	OFF
High water level	20	OFF	OFF
EEPROM reading error	21	OFF	OFF



Alarms on IPM board	LED RED 	LED YELLOW 	(DISPLAY)
External air temperature sensor failure	0	1	1
External exchanger temperature sensor failure (Tehx)	0	2	2
Compressor discharge temperature sensor failure	0	3	3
Compressor current protection	0	4	4
IPM – IDU Board communication error	0	5	5
Power supply overcurrent	0	6	6
No current compressor detection	0	7	7
Under/over voltage DC	0	8	8
Current failure	0	9	9
External exchanger temperature too high (HTE)	1	0	10
<b>Defrost ON</b>	<b>1</b>	<b>1</b>	<b>-</b>
IPM protection	1	2	11
Eeprom reading error	1	3	12
Eeprom writing error	1	4	12
Compressor discharge temperature too high	1	7	13

NR. YELLOW LED BLINK 	DESCRIPTION	MODE	EFFECT
3	External exchanger temperature too high	COOLING	Limitation of compressor frequency
3	External exchanger temperature too low	COOLING	External Fan goes OFF
3	Internal exchanger temperature too high	HEATING	Limitation of compressor frequency
6	Internal exchanger temperature too low	COOLING	Limitation of compressor frequency
4	Power supply overcurrent	HEATING COOLING	Limitation of compressor frequency
5	Discharge compressor temperature too high	HEATING COOLING	Limitation of compressor frequency
10	Compressor phase overcurrent	HEATING COOLING	Limitation of compressor frequency

Attention: the protections does not stop the unit. **The yellow led is on IPM board**

# 1 – 2 – 3 ODU temperature sensor failure

## **Cause:**

The board does not detect the ohm value of the sensor

## **Actions:**

Check the ohm value of the sensor in relation to the ohm / temperature tables:

If the value is OK, replace the electronic board

If null or out of range replace damaged sensor

# 4 – Compressor current protection

## **Cause:**

The lpm board detect a current value  $> 16$  A (Ampere)

## **Actions:**

Check the total current value of the unit



## 5 – IPM – IDU Board communication error

### **Cause:**

Communication loss between IPM and main board

### **Actions:**

Check the communication cable (“white-yellow” connector CN500 on main board)

Check if the same alarm appears also in the ipm board (Led red and yellow)

## 7 – No current compressor detection

### **Cause:**

The Ipm board detect a current value lower than 1.5 ampere

### **Actions:**

Check the compressor connections (U – V – W)

If the compressor starts and then the alarm appears check the refrigerant charge

## 8 – Under/over voltage DC

### **Cause:**

The IPM board detects a voltage DC lower than 210 vdc or higher than 380 vdc

### **Actions:**

Check the voltage supply on IPM board (connections DC+, DC-)

## 9 – Current failure

### **Cause:**

The IPM board detects an abnormal current

### **Actions:**

Check the voltage supply on IPM board (connections DC+, DC-)

Check the total current of the unit

Check the power supply of the unit

# 10 – External exchanger temperature too high (HTE)

## **Cause:**

The external exchanger temperature sensor detects a temperature higher than 70°C

Automatic reset when the temperature goes below 60°C

## **Actions:**

Check if there is a real overheat of the external exchanger

If the external exchanger temperature is within the limits check the temperature sensor

## **Other possible causes:**

- Obstructed air pipes
- External fan locked
- Dirty external exchanger
- Non compliant grids
- Not working water disposal system
- External temperature out of operating limits

## 11 –IPM protection

### **Cause:**

IPM overheat, abnormal current

### **Actions:**

Check the operation of the IPM

Check the heatsink of the IPM (it must be clean and well connected on IPM board)

Check the compressor current

## 12 – Eeprom error

### **Cause:**

Writing or reading Eeprom error

### **Actions:**

Check the IPM cable connections, if ok replace the IPM board

# 13 –Compressor discharge temperature too high

## **Cause:**

The discharge compressor temperature sensor detects a temperature higher than 110°C

Automatic reset when the temperature goes below 90°C

## **Actions:**

Check the real overheat of the compressor, if the temperature is within the limits check the temperature sensor

Check the operating of refrigerant circuit

Check the refrigerant charge

## 14 – 15 Air and exchanger temperature sensor failure

### **Cause:**

The main board does not detect the ohm value of the sensor

### **Actions:**

Check the temperature sensor

If the temperature sensor is ok replace the main board

If the temperature sensor is broken or the ohm value is out of the operating limits replace the temperature sensor

## 16 - Internal exchanger temperature too low (LT)

### **Cause:**

The internal exchanger temperature sensor detects continuously (for at least 5 minutes) a temperature lower than -2°C

Automatic reset when the temperature goes above 7°

### **Actions:**

Check if there is a real abnormal temperature drop of the internal exchanger

If the internal exchanger temperature is within the limits check the temperature sensor

# 17 - Internal exchanger temperature too high (HTI)

## **Cause:**

The internal exchanger temperature sensor detects a temperature higher than 65°C

Automatic reset when the temperature goes below 42°C

## **Actions:**

Check if there is a real overheat of the internal exchanger

If the internal exchanger temperature is within the limits check the temperature sensor

## **Other possible causes:**

- Obstructed internal air suction (curtains or others..)
- Hot air recirculation (unit in up position with wrong flap configuration)
- Internal suction air temperature too high
- Internal fan locked or broken
- External air temperature too high (>24°C)
- Dirty filter

## 19 – Internal fan motor failure

### **Cause:**

The main board detects a fan motor problem

### **Actions:**

Check by hands the fan motor rotation

Check the fan motor supply (power supply, rotation signal, hall sensor)

## 20 – High water level

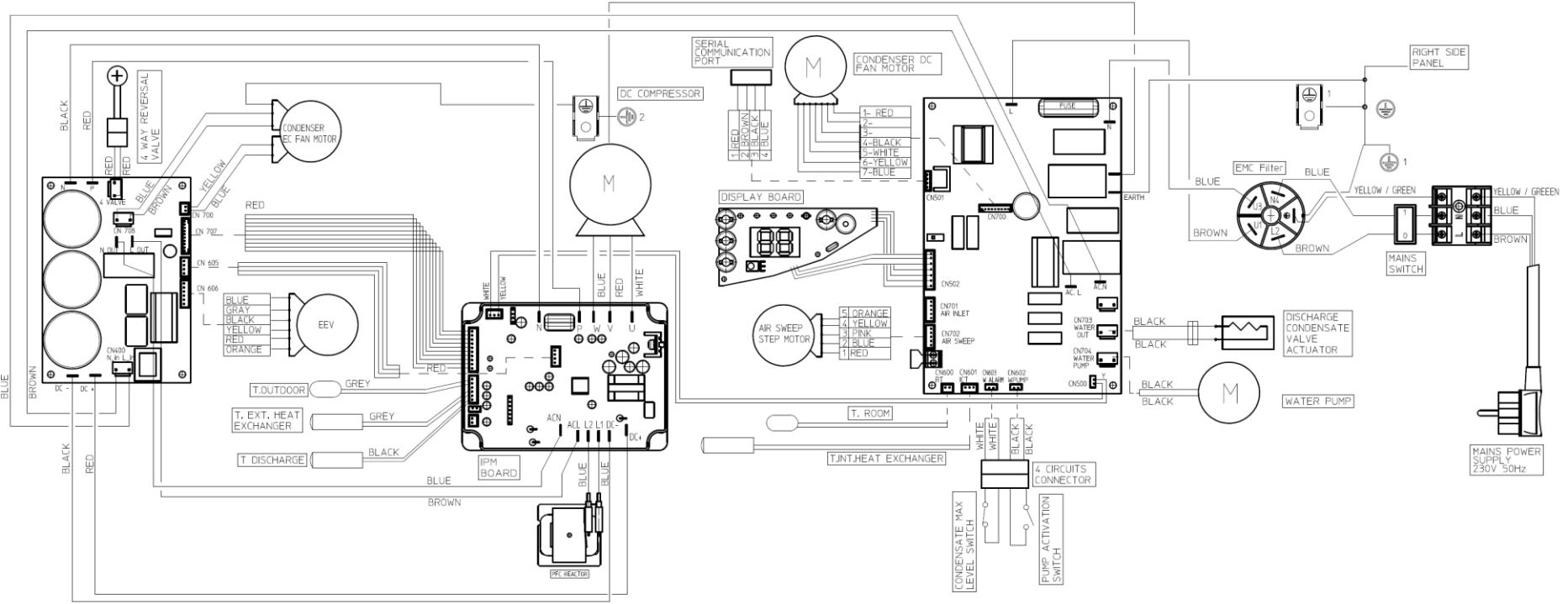
### **Cause:**

The high water float contact remains close for at least one minute

### **Possible causes:**

- Dirty external exchanger
- Obstructed water distributor
- Water pump locked
- Locked floats
- Dirty water disposal system (where is the thermoactuator)
- Obstruced external drain system





All the temperature sensors exept compressor temp. sensor(10 Kohm 25°C)							
°C	K Ohm	°C	K Ohm	°C	K Ohm	°C	K Ohm
-20	115.266	0	35.2024	20	12.6431	40	5.17519
-19	108.146	1	33.3269	21	12.0561	41	4.96392
-18	101.517	2	31.5635	22	11.5000	42	4.76253
-17	96.3423	3	29.9058	23	10.9731	43	4.57050
-16	89.5865	4	28.3459	24	10.4736	44	4.38736
-15	84.2190	5	26.8778	<b>25</b>	<b>10.000</b>	45	4.21263
-14	79.3110	6	25.4954	26	9.55074	46	4.04589
-13	74.5360	7	24.1932	27	9.12445	47	3.88673
-12	70.1698	8	22.5662	28	8.71983	48	3.73476
-11	66.0898	9	21.8094	29	8.33566	49	3.58962
-10	62.2756	10	20.7184	30	7.97078	50	3.45097
-9	58.7079	11	19.6891	31	7.62411	51	3.31847
-8	56.3694	12	18.7177	32	7.29464	52	3.19183
-7	52.2438	13	17.8005	33	6.98142	53	3.07075
-6	49.3161	14	16.9341	34	6.68355	54	2.95896
-5	46.5725	15	16.1156	35	6.40021	55	2.84421
-4	44.0000	16	15.3418	36	6.13059	56	2.73823
-3	41.5878	17	14.6181	37	5.87359	57	2.63682
-2	39.8239	18	13.9180	38	5.62961	58	2.53973
-1	37.1988	19	13.2631	39	5.39689	59	2.44677

Compressor discharge temperature sensor							
Temp. (°C)	kΩ	Temp. (°C)	kΩ	Temp. (°C)	kΩ	Temp. (°C)	kΩ
-20	542,7	1	171,9	22	62,7	43	25,9
-19	511,9	2	163,3	23	60	44	24,8
-18	483	3	155,2	24	57,4	45	23,9
-17	455,9	4	147,6	25	54,9	46	22,9
-16	430,5	5	140,4	26	52,5	47	22,1
-15	406,7	6	133,5	27	50,3	48	21,3
-14	384,3	7	127,1	28	48,1	49	20,5
-13	363,3	8	121	29	46,1	50	19,7
-12	343,6	9	115,2	30	44,2	51	19
-11	325,1	10	109,8	31	42,3	52	18,3
-10	307,7	11	104,6	32	40,6	53	17,6
-9	291,3	12	99,7	33	38,9	54	16,9
-8	275,9	13	95,1	34	37,3	55	16,3
-7	261,4	14	90,7	35	35,8	56	15,7
-6	247,8	15	86,5	36	34,3	57	15,2
-5	234,9	16	82,5	37	32,9	58	14,6
-4	222,8	17	78,8	38	31,6	59	14,1
-3	211,4	18	75,2	39	30,4	60	13,6
-2	200,7	19	71,9	40	29,2	61	13,1
-1	190,5	20	68,6	41	28	62	12,7
0	180,9	21	65,6	42	26,9		

Compressor discharge temperature sensor							
Temp. (°C)	kΩ	Temp. (°C)	kΩ	Temp. (°C)	kΩ	Temp. (°C)	kΩ
63	12,2	82	6,4	101	3,6	121	2
64	11,8	83	6,2	103	3,5	122	2
65	11,4	84	6	104	3,4	123	1,9
66	11	85	5,8	105	3,3	124	1,9
67	10,6	86	5,7	106	3,2	125	1,9
68	10,3	87	5,5	107	3,1	126	1,8
69	9,9	88	5,3	108	3	127	1,8
70	9,6	89	5,2	109	2,9	128	1,7
71	9,3	90	5	110	2,9	129	1,7
72	8,9	91	4,8	111	2,8	130	1,6
73	8,6	92	4,7	112	2,7		
74	8,4	93	4,6	113	2,6		
75	8,1	94	4,4	114	2,6		
76	7,8	95	4,3	115	2,5		
77	7,6	96	4,2	116	2,4		
78	7,3	97	4	117	2,4		
79	7,1	98	3,9	118	2,3		
80	6,9	99	3,8	119	2,2		
81	6,6	100	3,7	120	2,1		