ELLISSE HP

1. Technical Specification

Description	Unit	Value
Cooling capacity (1)	kW	2,5
Maximum Cooling capacity (3)	BTU/h	10000
Heating capacity (4)	kW	2,4
Maximum Heating capacity (5)	BTU/h	9600,0
Power absorption in cooling mode (1)	W	880
Nominal absorption in cooling mode (1)	A	3,90
Yearly energy consumption in cooling mode (1)	kWh	440
Power absorption in heating mode (4)	W	750
Nominal absorption in heating mode (4)	A	3,30
EER (1)		2,84
COP (4)		3,20
Energy Efficiency Class in cooling mode (1)		A
Energy Efficiency Class in heating mode (4)*		A
Power supply	V-F-Hz	230-1-50
Power supply min / max	V	198 / 264
Power absorption in cooling mode (2)	W	880
Maximum absorption in cooling mode (2)	A	3,90
Maximum Power absorption in heating mode (5)	W	850
Maximum absorption in heating mode (5)	A	3,80
Dehumidification capacity	l/h	1,0
Room air volume (max/min)	m³/h	400 / 255
Outdoor air volume (max/min)	m³/h	430
Fan speeds		3
Flexible pipe (lenght x diameter)	mm	1500 x 120
Electric heating element (optional)	W	-
Maximun remote control range (distance / angle)	m / °	8 / ±80°
Tank capacity	l	-
Dimensions (W x H x D) (without packaging)	mm	460 x 767 x 395
Dimensions (W x H x D) (with packaging)	mm	484 x 852 x 448
Weight (without packing)	Kg	29
Weight (with packaging)	Kg	33
Noise level	db(A) min - max	41 - 48
Protection level		IP 10
Refrigerant gas / charge	Tipo-Type / kg	R410A / 0,460
Maximum operating pressure	MPa	3,60
Power cable (N° pole x section mmq)		3 x 1,5
Fuse		10AT
Country of destination		-
Conformity mark		CE
Certification mark		-

OPERATIONAL LIMITS	Temp. ambiente interna Indoor temperature	Temp. ambiente esterno Outdoor temperature
Maximum operating temperature in cooling mode	DB 35°C - WB 32°C	DB 43°C - WB 32°C
Minimum operating temperature in cooling mode	DB 16°C	DB 18°C - WB 16°C
Maximum operating temperature in heating mode	DB 27°C - WB 19°C	DB 27°C - WB 19°C
Minimum operating temperature in heating mode	DB 7°C	DB 7°C

TEST PARAMETERS - EN 14511	Temp. ambiente interna Indoor temperature	Temp. ambiente esterno Outdoor temperature
(1) Cooling capacity , EER, Annual consumption, Energy efficiency class tests	DB 35°C - WB 24°C	DB 35°C - WB 24°C
(2) High load test in cooling mode	DB 35°C - WB 24°C	DB 43°C - WB 32°C
(3) Maximum capacity test	DB 35°C - RH 80%	DB 35°C - RH 80%
(4) Heating capacity , COP, Energy efficiency class* tests (not in force yet)	DB 20°C - WB 12°C	DB 20°C - WB 12°C
(5) High load test and maximum capacity in heating mode	DB 27°C - WB 19°C	DB 27°C - WB 19°C

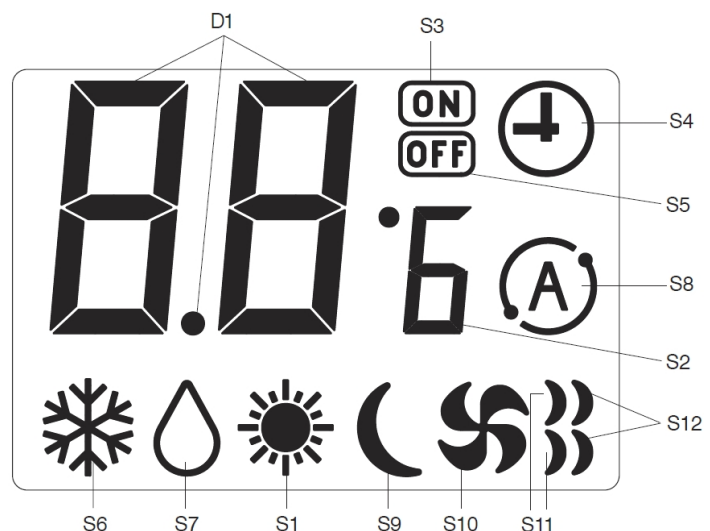## 2.Control Board
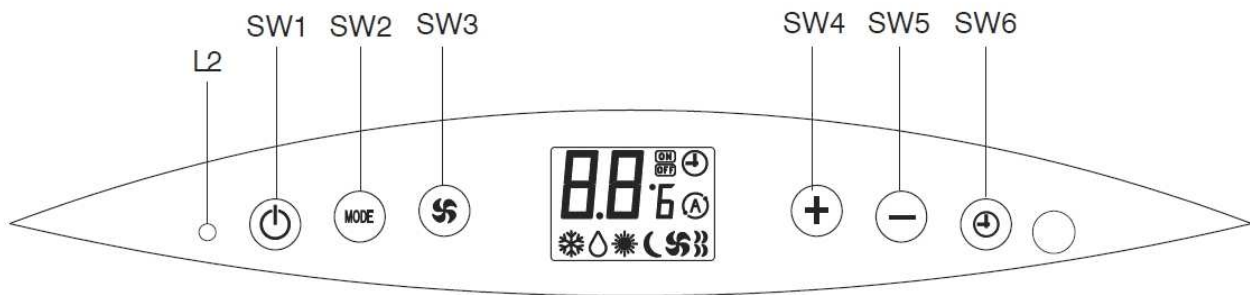
- **SW1: ON / Standby;**
- **SW2: Working mode selection (cooling → automatic → fan only → dehumidification → cooling ….);**
- **SW3: Fan speed selection (max speed → med speed → min speed → max speed ….);**
- **SW4: Temperature/delay set increase;**
- **SW5: Temperature/delay set decrease;**
- **SW6: Unit switch ON/OFF delay confirmation/cancel;**
- **L1: LCD (with blue backlight);**
- **L2: Standby mode LED (red).**

2.1 Control Board Display

- **D1: Tset/Timer (tens);**
- **D2: Tset/Timer (units);**
- **DP: Decimal point;**
- **S1: Time indicator;**
- **S2: Temperature indicator;**
- **S3: Delayed switch ON;**
- **S4: Timer mode;**
- **S5: Delayed switch OFF;**
- **S6: Cooling mode;**
- **S7:Dehumidification mode;**
- **S8: Automatic mode;**
- **S9: Sleep mode;**
- **S10: Fan mode / low fan speed;**
- **S11: Medium fan speed;**
- **S12: Maximum fan speed.**

3. Remote control

B1: ON/Standby;
B2: Operating mode selection (cooling => automatic => ventilation => dehumidification => heating (ELLISSE HP only) => cooling....);
B3: Turbo mode selection (switch the unit to cooling mode, Tset=16°C, max fan speed);
B4: Temperature set increase;
B5: Temperature set decrease;
B6: Fan speed selection (max speed => med speed => min speed => max speed ....);
B7: Auto fan speed selection;
B8: Unit switch ON delay setting;
B9: Unit switch OFF delay setting;
B10: Unit switch ON/OFF delay confirmation/cancel;
B11: Sleep mode selection (on/off);
B12: Remote controller reset (if present).
B13: Temperature measurement unit selection (if present).
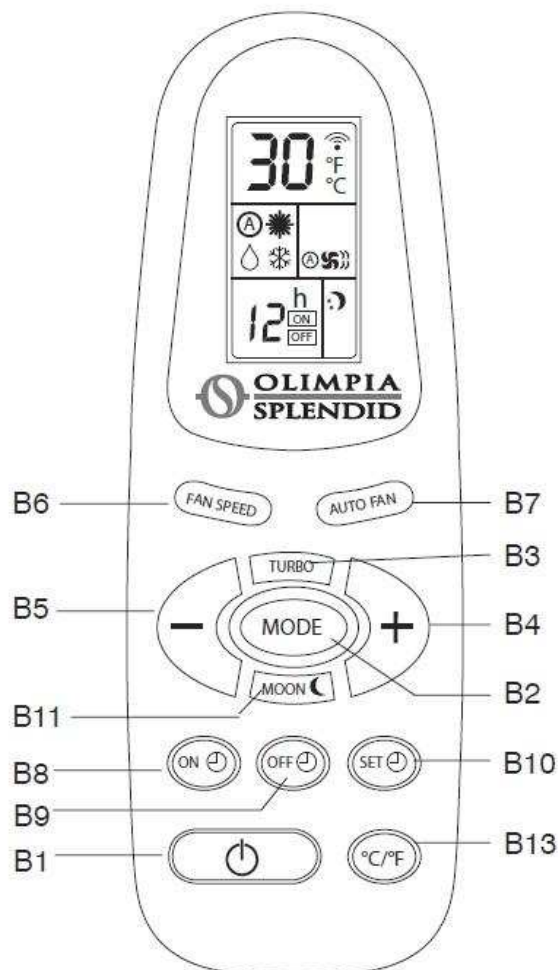
3.1 Remote control display
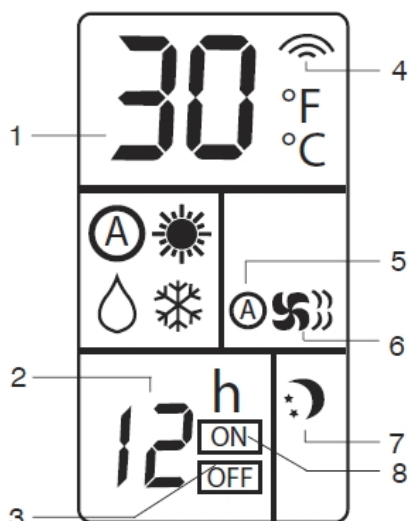
1. Temperature set
2. Delay time set
3. Delayed switch OFF
4. Rc transmission
5. Auto fan mode
6. Fan speed/fan mode
7. Night mode
8. Delayed switch ON

4 STANDBY MODE.

Can be selected by pressing B1 on the remote control or SW1 on the display unit
(in the latter case, the key only puts the appliance in standby if the unit is
switched ON and no alarms occurred). The corresponding LED L2 is switched ON to indicate that this mode is enabled and that all the outputs are switched OFF (4way valve only can remain ON until 2 minutes from previous compressor shut down have elapsed) (the display L1 and its backlight in this mode are switched OFF as well). In this condition, press B1 again on the remote control (or SW1 on the display unit) to restore all the formerly selected functions (function mode, set-point, fan speed, etc.). In standby mode all the working timers are reset (except for the compressor delay timer, 4way valve delay timer, and dirty filter warning hour counter). In this status, only the "room sensor alarm" fault is enabled (see the paragraph WARNINGS and ALARMS below).

5 FAN MODE

This mode can be selected by pressing B2 or SW2 until the fan symbol (only) is shown on both the remote control's and L1 displays. In this working mode the internal fan is always switched on and it's possible to set the desired fan speed at any time by pressing the relative key B6 or SW3.

The internal fan speed control is based on a speed feedback signal provided by the fan motor itself (see the motor specs in enclosure 6). The target speed is compared to the feedback signal and the motor voltage is continuously adjusted in order to minimize the speed values difference.

Here are the details about the available fan speeds:

	High FAN	Med FAN	Min FAN
FAN MODE	1280 r/min ±5%	1100 r/min ±5%	920 r/min ±5%

LCD symbols
displayed:

In fan mode the Tset values on both the remote controller and the display unit are replaced by
'   ●   ●   '   and neither B4/B5 nor SW4/SW5 are enabled.

In this working mode all appliance's malfunctions are enabled.

Compressor, ext fan, water disposal motor and 4way valve must always remain OFF.

6 COOLING MODE

This mode can be selected by pressing B2 or SW2 until the cooling symbol (only) is shown on both the remote control's and L1 display. The internal fan is always switched on, and runs at the selected speed (set by pressing B6 or SW3) if the compressor is also switched on, otherwise it runs always at minimum speed (except during defrosting subprogram, see below for further details).

Here are the details about the available fan speeds:

	High FAN	Med FAN	Min FAN
COOLING MODE	1280 r/min ±5%	1100 r/min ±5%	920 r/min ±5%

The temperature set-point (Tset) can be adjusted from 16°C to 30°C in 1°C steps by means of B4/B5 or SW4/SW5, and its value is shown both on remote and local interfaces (by D1, D2, and S1+S2='°C').

If automatic fan speed is selected (only from the remote control by pressing B7) the

following applies (only when the compressor is ON, otherwise the fan keeps its minimum speed):

- if Troom < Tset+3°C the fan is switched to minimum speed;
- if Tset+3°C ≤ Troom < Tset+6°C the fan is switched to medium fan speed;
- if Troom ≥ Tset+6°C the fan is switched to maximum fan speed.

At least 3 minutes must pass between one automatic speed change and another.

The display L1 shows the auto fan mode by cyclically switching the fan speed symbols as follows:

$$\text{\Large ❄} \to \text{\Large ❄)} \to \text{\Large ❄))} \to \text{\Large ❄} \quad ......$$

Ext fan motor and water disposal motor are always switched ON/OFF together with the compressor.

Compressor is switched ON for Troom ≥ Tset+**Hy** and is switched OFF for Troom ≤ Tset (unless the defrosting function occurs).
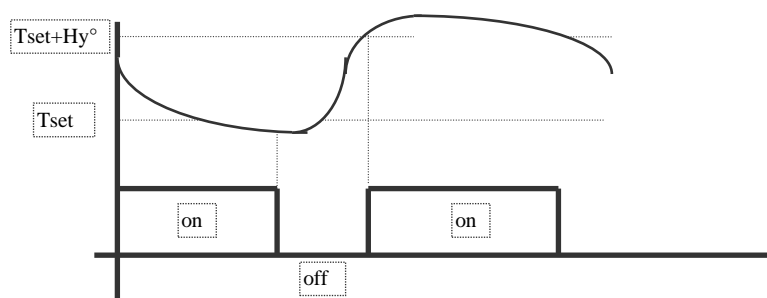
The **cooling defrosting subprogram**, which starts with Troom < **Tmin** and finishes with Troom > **Tmin**+2°C, forces the compressor, (and ext fan and water disposal motor outputs) to periodically switch OFF and switch ON for **Tp_off** minutes (OFF state duration) and **Tp_on** minutes (ON state duration) respectively.

When the defrosting function is active, the internal fan speed must be set as follows:

Fan speed setting	Int. fan speed (compressor OFF)	Int fan speed (compressor ON)
Min	**MED**	**MED**
Med	**MED**	MED
Max	**MED**	MAX

The compressor (together with ext fan and water disposal motor) must be switched ON after a minimum **Rest_time** delay (180 sec) from last circuit power-on or from any former compressor shutdown.

During this working mode all appliance's malfunctions are enabled (see relative chapter below).
In cooling mode 4way valve output must always remain OFF.
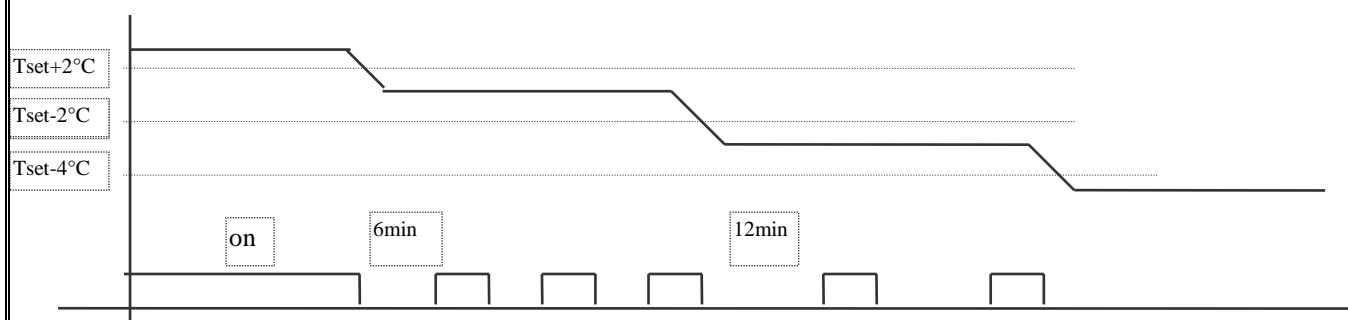
7 DEHUMIDIFICATION MODE

This mode can be selected by pressing B2 or SW2 until the dehumidification symbol (only) is shown on both the remote control's and L1 display. This mode works similarly to cooling mode except for:

- internal fan speed selection, which is forced to run at minimum speed (B6, B7 and SW3 are disabled, no fan symbols are shown on both the displays), except during defrosting subprogram, see below for further details;

	Min FAN	Med FAN (during defrosting only)
DEHUMI MODE	920 r/min ±5%	1100 r/min ±5%

- Tset which is set equal to the Troom (room temperature) every time thefunction is enabled and just before first compressor activation (it cannot subsequently be changed, B4/B5 and SW4/SW5 are disabled, Tset values on both the remote controller and the display unit are replaced by ' ● ● ');
- Compressor working cycle which is controlled as follows:
  - ON continuously for Troom > Tset+2°C
  - 6 minutes ON and 6 minutes OFF for Tset-2°C<Troom ≤ Tset+2°C
  - 6 minutes ON and 12 minutes OFF for Tset-4°C<Troom ≤ Tset-2°C
  - OFF continuously for Troom ≤ Tset-4°C

Note: After each dehumi mode start, the compressor always waits 3 minutes before its first activation. Regardless of Troom and Tset acquired, compressor always runs a 6minON/6minOFF cycle first.

In this status the defrosting subprogram is still enabled, and all appliance's malfunctions can be signaled. When defrosting function is active in dehumidification mode, the int fan must always be forced to MED speed.

8 HEATING MODE

This mode can be selected by pressing B2 or SW2 until the heating symbol (only) is shown on both the remote control's and L1 display. In heating mode the water disposal motor must always remain switched OFF.
The temperature set-point (Tset) can be adjusted from 16°C to 27°C in 1°C steps

by means of B4/B5 or SW4/SW5 (if a Tset higher than 27°C was previously selected in cooling, when the heating mode is selected the Tset must be automatically set to 21°C), and its value is shown both on remote and local interfaces (by D1, D2, and S1+S2='**°C'**).

Once heating mode is selected, if Troom ≥ Tset nothing happens (all outputs remain switched off).

If Troom ≤ Tset-**Hy** and **Res_time** seconds from previous compressor shutdown are elapsed, the 4-way valve is activated first, then compressor and external fan can be switched ON.

As soon as Troom ≥ Tset the compressor and external fan are switched OFF (the 4 way valve must remain energized).

Next time the condition Troom ≤ Tset-**Hy** occurs, provided that **Res_time** seconds from previous compressor shutdown are elapsed, compressor and external fan can be switched ON again.

Internal fan it's switched to low speed for **t_lowspeed** seconds from each compressor start time (regardless of any speed selection), then it can be switched to actual selected speed. Each time the compressor is switched OFF (due to Troom ≥ Tset or unit to Stby mode), the internal fan is set to low speed for **t_lowspeed** seconds and then it's switched OFF.

Here are the details about the available fan speeds:

	High FAN	Med FAN	Min FAN
HEATING MODE	1280 r/min ±5%	1100 r/min ±5%	920 r/min ±5%

When auto fan speed is selected (only from the remote control by pressing B7), the actual speed is selected depending on room temperature and Tset as following (only when the compressor is ON, otherwise the int fan keeps OFF):

- Tset – 3°C < Troom ≤ Tset: minimum speed is enabled;
- Tset – 6° < Troom ≤ Tset-3°C: medium speed is enabled;
- Troom ≤ Tset-6°C: maximum speed is enabled.

At least 3 minutes must elapse between one automatic speed change and another (if Tset or fan speed selection is changed, the new speed is enabled without any delay).

The display L1 shows the auto fan mode by cyclically switching the fan speed symbols as follows:

The **heating defrost subprogram** starts when Troom ≤ **Tdefrost** and ends when Troom > **Tdefrost** +2°C, and forces the compressor to periodically switch OFF and switch ON for **t_defrost_off** minutes (OFF state duration) and **t_defrost_on** minutes (ON state duration) respectively.

When the heating defrost function is active, the internal fan behaves as usual in heating (each time the compressor is switched ON, it's set to low speed for **t_lowspeed** seconds first then to the selected fan speed; each time the compressor is switched OFF, it's set to low speed for **t_lowspeed** seconds first, then it's switched OFF).

The **heatmax subprogram** starts when Troom ≥ **Theatmax** and ends when Troom < **Theatmax** - 2°C, and forces the external fan to periodically switch OFF and switch ON for **t_heatmax_off** seconds (OFF state duration) and **t_heatmax_on** minutes (ON state duration) respectively.

After switching the unit from heating to any other mode (including stand-by), the 4 way valve must remain energized until **Rest_time** seconds from previous compressor shut down have elapsed.

In this mode too the compressor must be switched ON after a minimum **Rest_time** delay (180 sec) from last circuit power-on or from any former compressor shutdown.

During this working mode all appliance's malfunctions are enabled (see relative chapter below).

9 SLEEP MODE

This mode can only be selected from the remote control (by pressing B11) and can only be used in conjunction with cooling and heating modes.

In <u>cooling mode</u>, as soon as sleep mode is enabled, the internal fan is forced to run at minimum speed and the set temperature Tset is automatically increased by 1°C after 1 hour and by 1°C again after 2 hours (starting from function activation or subsequent Tset modification).

In <u>heating mode</u>, as soon as sleep mode is enabled, the internal fan is forced to run at minimum speed and the set temperature Tset is automatically decreased by 2°C after 1 hour and by 2°C again after 2 hours (starting from function activation or subsequent Tset modification).

When sleep mode is disabled, when Tset is modified from the remote control, when the appliance is placed in Stand-by or when the power supply is disconnected, in all these situations the function timer is reset and Tset restored to the last one received from remote controller.

In this status too all appliance's malfunctions are enabled.

10 AUTOMATIC MODE

This mode can be selected by pressing B2 or SW2 until the automatic symbol is shown on both the remote control's and L1 displays. In this mode, the COOLING, HEATING and FAN functions are selected automatically depending on the continuously monitored room temperature value:

- o If Troom < 17°C, the appliance works in heating mode, maximum speed enabled;
- o If 17°C ≤ Troom < 19°C, the appliance works in heating mode, medium speed enabled;
- o If 19°C ≤ Troom < 21°C, the appliance works in heating mode, minimum speed enabled;
- o If 21°C ≤ Troom ≤ 23°C, the appliance works in fan mode, minimum speed enabled;
- o If 23°C < Troom ≤ 25°C, the appliance works in cooling mode, minimum speed enabled;
- o If 25°C < Troom ≤ 27°C, the appliance works in cooling mode, medium speed enabled;
- o If Troom > 27°C, the appliance works in cooling mode, maximum speed enabled.

After each variation the int. fan speed have to remain constant for at least 3 minutes to avoid any inconvenient swings. For internal fan speed values refer to fan only, cooling and heating working mode.

All the various subprograms and malfunctions enabled and described for each working mode before are still enabled in automatic mode too and have the same behavior previously defined.

11 TURBO MODE

This mode can only be selected from the remote control (by pressing B3) and switches the unit directly to cooling mode with Tset=16°C and maximum fan speed. Both the remote control's and L1 displays are updated accordingly.

12 TIMER MODE

This mode enables a delayed switch ON or switch OFF operation to the overall unit.

The time delay can be set, enabled and canceled from both the remote control and the display unit as follows:

12.1 Timer ON setting from remote control:

- Switch ON the unit and select by B2,B3,B4,B5,B6 or B7 the working mode, set temperature and fan speed the unit will apply when it will switch ON;
- Switch the unit to standby mode by pressing B1;
- By pressing B8, set the desired time delay (from 1 to 12 hours) after which the unit will switch ON (starting from timer confirmation). At first B8 key operation, the remote control display shows the previous selected delay time value or the preset one (6h) if no other timer confirmations have occurred before. Each following B8 key operation increases the delay time value by 1 hour. If no key operations occur for more than 5 seconds the timer setting function ends.
- Confirm the desired delay time by pressing B10. The remote controller display shows the delay countdown to the switch ON operation. On the local user interface, L2 is switched OFF, S4 is switched ON and S2='**h**'. D1 - D2 show the delay countdown to the switch ON operation (blinking for first 5 seconds, then fixed), symbols S6 to S13 (blinking) show for 5 seconds the setting the unit will apply when it will switch ON;
- In order to cancel the delayed switch ON action, press the B10 button. The unit will switch to standby mode (L1 OFF and L2 ON).
- When the delay time set has elapsed, the unit switches ON with latest selected settings. All the timer symbols on both the remote controller and the local interface disappear.

12.2 Timer OFF setting from remote control:

- o With the unit in any working mode (except standby), press B9 to set the desired time delay (from 1 to 12 hours) after which the unit will switch OFF (starting from timer confirmation). At first B9 key operation, the remote control display shows the previous selected delay time value or the preset one (6h) if no other timer confirmations have occurred before. Each following B9 key operation increases the delay time value by 1 hour. If no key operations occur for more than 5 seconds the timer setting function ends.
- o Confirm the desired delay time by pressing B10. The remote controller display shows the delay countdown to the switch OFF operation other than the current unit settings. On the local user interface, S4 and S5 are switched ON and D1 - D2 show for 5 seconds the time delay set, then switch back to previously displayed Tset value (only in cooling mode, otherwise '━ ━ '). By pressing SW6, S2='**h**', D1 and D2 shows for 5 seconds in blinking mode the remaining delay countdown to the switch OFF operation, and then restores the previous visualization (see § 7.10.4);
- o In order to cancel the delayed switch OFF action, press the B10 button. On the local interface S4 and S5 will be switched OFF. It's possible to cancel the timer also by pressing the SW6 button during the remaining delay countdown visualization (see § 7.10.4);
- o When the delay time set has elapsed, the overall unit switches OFF (standby mode, L1 OFF, L2 ON).

12.3 Timer ON setting from the display unit:

- o Switch ON the unit and select by SW2, SW3, SW4 and SW5 the working mode, set temperature and fan speed the unit will apply when it will switch ON;
- o Switch the unit to standby mode by pressing SW1.
- o Press SW6 to set the desired time delay (from 1 to 12 hours) after which the unit will switch ON (starting from timer confirmation). S4 is switched ON and S2='**h**', S3 starts to blink, symbols S6 to S13 show for 5 seconds (blinking) the setting the unit will apply when it will switch ON and D1-D2 show (blinking) the previous selected delay time value or the preset one (6h) if no other timer confirmations have occurred before;
- o Press SW4 or SW5 to increase/decrease the delay time value shown by D1 and D2. If no key operations occur for more than 5 seconds the timer setting function ends.
- o Confirm the desired delay time by pressing SW6. The LED L2 is switched OFF, S3 stops to blink and remain switched ON, and D1 - D2 show the delay countdown to the switch ON operation. Symbols S6 to S13 show for 5 seconds the setting the unit will apply when it will switch ON;
- o In order to cancel the delayed switch ON action, press the SW6 button. D1 and D2 will show ⬤ ⬤ (together with S2='**h**', S3 and S4) for 5 seconds (in blinking mode) and then the unit will switch to standby mode (L1 OFF and L2 ON).
- o When the delay time set has elapsed, the unit switches ON with previously selected settings. All the timer symbols (S2, S3 and S4) on the local interface disappear.

12.4 Timer OFF setting from the display unit:

- o With the unit in any working mode (except standby), press SW6 to set the desired time delay (from 1 to 12 hours) after which the unit will switch OFF (starting from timer confirmation). S4 is switched ON, S2='**h**', S5 starts to blink and D1-D2 show (blinking) the previous selected delay time value or the preset one (6h) if no other timer confirmations have occurred before;
- o Press SW4 or SW5 to increase/decrease the delay time value shown by D1 and D2. If no key operations occur for more than 5 seconds the timer setting function ends.
- o Confirm the desired delay time by pressing SW6. S5 stops to blink and is switched ON, S2 is switched OFF whereas D1 - D2 change back to show the Tset (only in cooling mode, otherwise ' ⬤ ⬤ ');
- o By pressing SW6, S2, D1 and D2 shows for 5 seconds in blinking mode the remaining delay countdown to the switch OFF operation, and then restores the previous visualization.

In order to cancel the delayed switch OFF action, press the SW6 button. During the remaining delay countdown visualization, press once more time the SW6 button. D1 and D2 will show (together with S2='**h**', S4 and S5, all blinking) for 5 seconds, then S4 and S5 will be switched OFF and D1 – D2 and S2 will restore the previous visualization

13 WARNINGS and ALARMS

13.1 Dirty Filter warning:

Appears as soon as the internal fan has been powered for **Tsf** hours (in Stby mode, with intfan OFF, the dirty filter hour counter hasn't to be updated). When this occurs, the whole appliance must anyway continue to work and the display unit (D1-D2) shows the relative warning code ('Fi',see the table below), except in stby mode when no codes have to be displayed ('- -'). In case 'Fi' is displayed (unit ON), by pressing SW4, SW5 or SW6, the LCD shows for 5" on D1-D2 actual Tset or Timer value according to new selection, then restores the 'Fi' code.

Both the warning signal and the function timer can be reset by keeping the Stand-by (SW1) key pressed uninterruptedly for at least 5 seconds (after 5 seconds it must reset even if the key is still pressed). The warning signaling is restored after a power mains interruption. The function timer value (hour count) is restored too after a power mains interruption (means the working hours counter has to be stored in EEPROM when it changes value).

During dirty filter warning signaling all alarm conditions can occur. In this case the display unit have to display the relevant alarm code (see the table below), Alarms never changes/resets the actual dirty filter counter value.

13.2 Room sensor alarm:

As the room temperature values acquired exceed the range -10°C ÷ +70°C, the appliance stops to run (all outputs are switched off), no more commands are managed (neither by remote controller nor by display unit) and the relative alarm code (see table below) is shown on display unit LCD. Once the correct probe operation is restored, the unit is placed in Standby mode.

13.3 Internal fan alarm:

When fan speed feedback acquired keeps lower than 400 rpm for 20 seconds in all the working situation when the fan should operate, the appliance stops to run (all outputs are switched off), no more commands are managed (neither by remote controller nor by display unit) and the relative alarm code (see table below) is shown on display unit LCD. The board can be reset only by switching off the power supply.

13.4 Water level alarm:

If condensate water level switch keeps open <u>continuously</u> for more than 30 seconds the unit stops to run (all outputs are switched off), no more commands are managed (neither by remote controller nor by display unit switch) and the relative alarm code (see table below) is shown on display unit LCD. The board can be reset only by switching off the power supply. When OF alarm has not yet occurred and max level switch closes or the appliance is switched to stand by mode, the 30 seconds timer is reset.

13.5 EEprom data failure:

eeprom includes data about the air-conditioner working setting and no other sensitive information. It is useful to restore the previous air-conditioner working mode when the power mains recovers after blackout.

  If data stored in eeprom are loosen / invalid or read/write operations failed, the unit continues running, <u>the relative alarm code does not appear on the display</u> unit and only the Autorestart function is disabled (refer to 7.12.2 Autorestart paragraph).

14 Warnings and alarms codes:

'At'	Diagnostic mode
'Fi'	Dirty filter warning
'2' blinking	Room sensor alarm
'3' blinking	Water level alarm
'8' blinking	Internal motor fan alarm
'13' blinking	EEprom data failure

15 SPECIAL FUNCTIONS

15.1 DIAGNOSTIC MODE:
This function can be activated while the appliance is in STANDBY by pressing the keys SW4+SW5 on the display unit for at least 10 seconds. After that, the following sequence is started:

- all symbols of the display L1 are switched ON;
- D1, DP and D2 show the 1.1 SW release;
- D1 and D2 begin to show the code '**At**' in blinking mode
- 4way valve is turned on
- wait 1seconds
- the 4way valve is turned off
- (cooling mode) compressor, condensate water pump, indoor fan (max speed) and outdoor fan work (regardless Troom)
- wait 30seconds
- (heating mode) compressor, 4way valve, indoor fan (max speed) and outdoor fan work (regardless Troom)

In Diagnostic mode all the alarms are enabled, Defrost and Heatmax functions for Heating mode, Defrost function for Cooling mode are enabled

In Diagnostic mode, by pressing the SW6 button, the room temperature acquired by the probe is shown on D1 and D2.

Press the standby key SW1 or disconnect the power supply to quit Diagnostic mode

15.2 AUTORESTART FUNCTION:
The board must store in EEprom all current settings (except Sleep mode and Timer mode). When re-powered after a power mains interruption, it has to start up by recovering all previously stored settings (in case the DIAGNOSTIC function was enabled, after a black-out the appliance must set itself in STANDBY mode). In any case, compressor activation must be delayed by 3 minutes from each power-on.

In case of EEPROM data failure, the previous stored setting cannot be recovered; so, when re-powered after a power mains interruption, unit restarts from standby mode

15. Wiring diagram
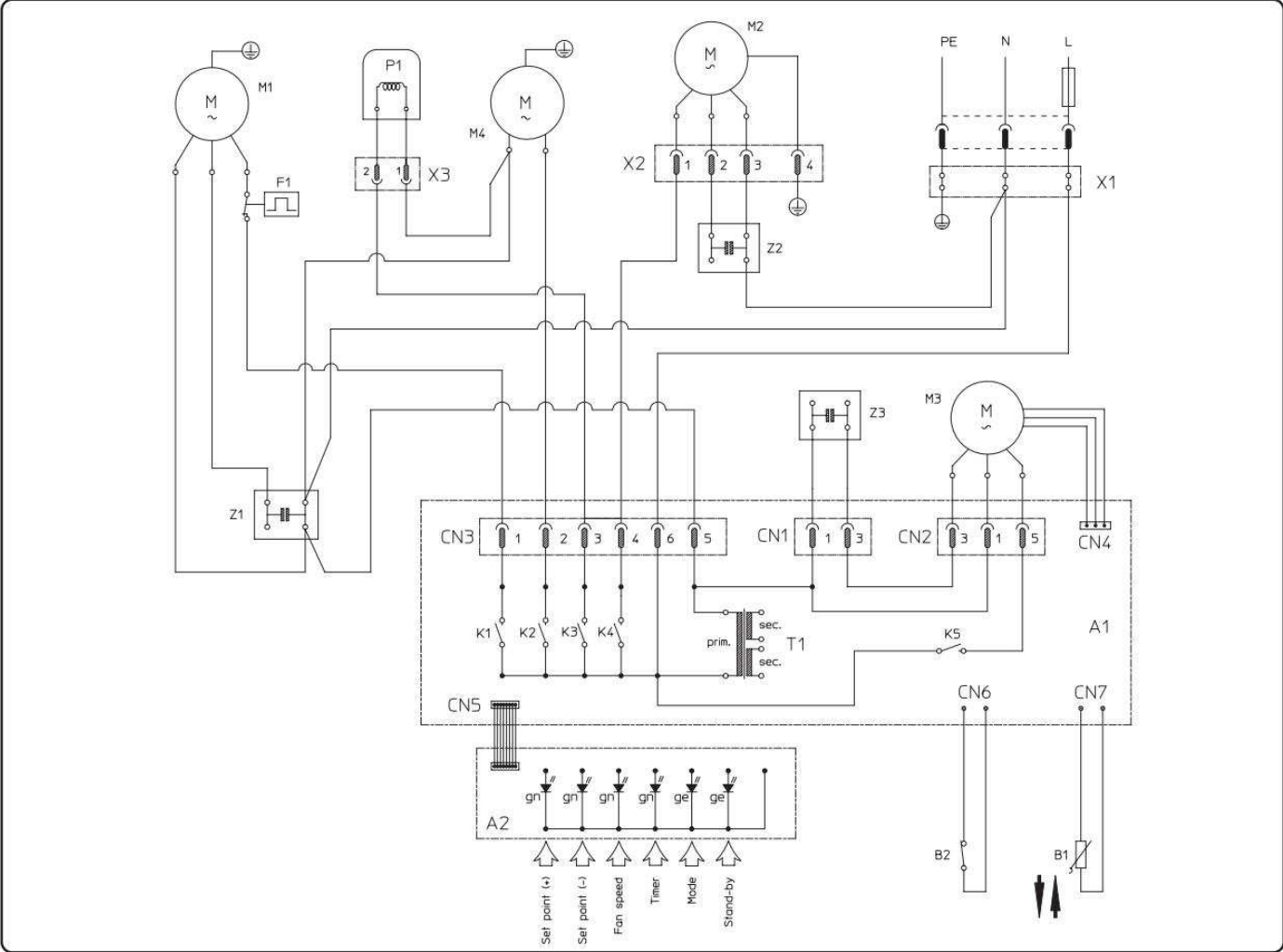
A1) Electronic card (power)
A2) Electronic card (control)
B1) Thermostat probe
B2) Water level probe
CN1) 3 pin connector
CN2) 5 pin connector
CN3) 6 pin connector
CN4) 3 pin connector
CN5) 8 pin connector
CN6) 2 pin connector
CN8) 2 pin connector
F1) Compressor thermal cut-out
K1) Relays for compressor
K2) Condensate removal motor
     relay
K3) Inversion valve coil relay
K4) External fan relay
K5) Internal fan control
M1) Compressore
M2) External fan
M3) Internal fan
M4) Condensation discharge
     motor
P1) Inversion valve coil
T1) Transformer
X1) Terminal board for main
     power
X2) 4 pin connector
X3) 2-pole connector
Z1) Compressor capacitor
Z2) External fan condenser
Z3) Internal fan condenser

16. Sensor data

R-T CONVERSION TABLE

R0=15.00KΩ   B25/50=3450K

TX(℃)	Rnom(KΩ)	TX(℃)	Rnom(KΩ)	TX(℃)	Rnom(KΩ)	TX(℃)	Rnom(KΩ)
-30	67.94	6	11.50	42	2.835	78	0.9088
-29	64.25	7	11.01	43	2.739	79	0.8831
-28	60.79	8	10.55	44	2.646	80	0.8582
-27	57.53	9	10.10	45	2.556	81	0.8342
-26	54.48	10	9.684	46	2.471	82	0.8109
-25	51.60	11	9.284	47	2.388	83	0.7884
-24	48.90	12	8.903	48	2.309	84	0.7666
-23	46.35	13	8.540	49	2.233	85	0.7455
-22	43.96	14	8.194	50	2.159	86	0.7250
-21	41.70	15	7.864	51	2.089	87	0.7053
-20	39.58	16	7.549	52	2.021	88	0.6861
-19	37.58	17	7.249	53	1.956	89	0.6676
-18	35.69	18	6.962	54	1.893	90	0.6496
-17	33.91	19	6.688	55	1.832	91	0.6323
-16	32.23	20	6.427	56	1.774	92	0.6156
-15	30.65	21	6.178	57	1.718	93	0.5993
-14	29.15	22	5.939	58	1.664	94	0.5836
-13	27.74	23	5.712	59	1.612	95	0.5683
-12	26.40	24	5.494	60	1.562	96	0.5535
-11	25.14	**25**	**5.286**	61	1.513	97	0.5391
-10	23.95	26	5.086	62	1.467	98	0.5251
-9	22.82	27	4.896	63	1.422	99	0.5115
-8	21.75	28	4.714	64	1.379	100	0.4983
-7	20.74	29	4.539	65	1.337	101	0.4855
-6	19.79	30	4.372	66	1.297	102	0.4731
-5	18.88	31	4.212	67	1.258	103	0.4610
-4	18.02	32	4.059	68	1.220	104	0.4492
-3	17.20	33	3.912	69	1.184	105	0.4378
-2	16.43	34	3.772	70	1.149	106	0.4268
-1	15.70	35	3.637	71	1.116	107	0.4160
0	**15.00**	36	3.508	72	1.083	108	0.4055
1	14.34	37	3.384	73	1.051	109	0.3953
2	13.71	38	3.265	74	1.021	110	0.3854
3	13.11	39	3.151	75	0.9914		
4	12.55	40	3.041	76	0. 9630		
5	12.01	41	2.936	77	0.9354		