ISSIMO 11

1.0 Technical data:

DESCRIPTION	Unit of measurement	Values
Cooling power (1) / (3)	kW	**3,0**
Input power in cooling (1)	W	**1034**
Nominal absorption (1)	A	**4,6**
Annual consumption of energy in cooling (1)(Dir.2202/31/EC)	kWh	**517**
E.E.R.	-	**2,64**
Energy efficiency class in cooling (3)	-	**A**
Supply voltage	V-F-Hz	**230-1-50**
Minimum/maximum supply voltage	V	**196 / 253**
Maximum input power (2)	W	**1175**
Maximum absorption (2)	A	**5,2**
Dehumidification capacity	l/h	**1,2**
Air flow rate (max)	m^3/h	**380-300-250**
Ventilation speed	-	**3**
Pipe length	m	**1,5**
Electrical resistance (optional)	W	**-**
Maximum remote control range (distance/angle)	m/°	**8 / 80°**
Dimensions (Width x Height x Depth)	mm	**520x485x550**
Weight (without packaging)	Kg	**36**
Noise (sound power)	db(A) min-max	**34 - 43**
Enclosure protection rating	-	**IP20**
Refrigerant/load	Type/Kg	**R410A**
Max operating pressure	MPa	**5,2**
Power lead	No. poles x sect. mm^2	**3 x 1.5**
Fuse	-	**10AT**
	Indoor temperature	**Outdoor temperature**
Maximum operating temperature in cooling	DB 35°C - WB 24°C	DB 43°C - WB 32°C
Minimum operating temperatures in cooling	DB 18°C - WB 16°C	DB 18°C - WB 16°C
	Indoor temperature	**Outdoor temperature**
(1) Test conditions to verify cooling power (EN 14511)	DB 27°C - WB 19°C	DB 27°C - WB 19°C
(2) High load test conditions	DB 35°C - WB 24°C	DB 43°C - WB 32°C
(3) Test conditions for verifying the efficiency class (EN 14511)	DB 35°C - WB 24°C	DB 35°C - WB 24°C

INTRODUCTION

The user interface consists of the remote control (remote interface) and the display-unit board (local interface). This board must carry out the following functions:

WITH THE REMOTE CONTROL:

- Stby/activation (also indicated locally);
- "General automatic" mode Activation/Deactivation (also indicated locally);
- Activation/Deactivation mode in cooling;
- Setting the temperature wanted (Tset);
- Activation/Deactivation mode in dehumidification;
- Fan Activation/Deactivation mode;
- Fan speed selection (Min, Med, Max and Auto);Nighttime Activation/Deactivation mode;
- Setting the time schedule and operating programmes;
- Operating programme Activation/Deactivation (also indicated locally);

WITH THE DISPLAY:

- Stby/activation (also indicated locally);
- Reset dirty filter alarm;
- Activation in the "General automatic" mode (at the end of the SELF-TEST programme).

All the above settings must be confirmed by the board by a buzzer sounding briefly (both when enabling and disabling all functions). The settings to be made with the remote but not mentioned must be ignored.

1. **ELECTRICAL/ELECTRONIC COMPONENTS**
    - Vane rotary compressor with a maximum input power of 1.3kW (Inom max 6 A, Isp max 25A);
    - 4-speed centrifugal fan motor with a maximum input power of 200W;
    - IR remote control with Olimpia Splendid serial protocol
    - Unico Olimpia Splendid user interface board, from here on in called 'display unit';
    - NTC temperature probe with standard cylindrical container and connecting wire
    - Just the one board for the logic control and power section (powering/piloting 230Vac loads);
    - Management of 3 fan speeds by a relay on the board (motor with different stator windings);
    - System control by means of a single temperature probe located in suction on the evaporator side (connected to the board with a dedicated 2-pole connector);
    - Simplified user interface management (4 LEDs + single key) on the outdoor 'display'
    - Unidirectional serial communication management with Olimpia Splendid remote control
    - Local/remote control confirm buzzer on the board.

PARAMETERS TABLE

Mnemonic	*Value*	*Description*	*Expected range*
Scale_m	**18℃**	**Minimum scale**	**10…32℃**
Tset	**22℃**	**Setpoint**	**10…38℃**
Hy	**2℃**	**Hysteresis**	**0.5…10℃**
Adj	**0℃**	**Ambient probe input calibration**	**-15…+15℃**
tmin	**22℃**	**Anti-ice formation temperature**	**10…30℃**
tmax	**32℃**	**Anti explosion temperature**	**25…50℃**
Tp_on	**20 min.**	**Anti-ice programme ON time**	**3…60 min.**
Tp_off	**3 min.**	**Anti-ice programme OFF time**	**3…15 min.**
Rest_time	**180 sec.**	**Compressor start-up delay**	**0…255 sec.**
Tdiag	**20 min.**	**Diagnostic time with compressor ON**	**0…60 min**
Step	**1℃**	**Setpoint adjustment step**	**0.5…5℃**
Tsf	**250h**	**Filter Dirty alarm activation time**	**250-1000**

2. STANDBY MODE

- Selectable by pressing the corresponding key on the remote or locally on the display-unit (in the latter case the key performs this function only when the machine is working and there are no ongoing malfunctions). When the corresponding LED turns on (DL1) it means this mode is active and all the outputs are off. In this condition, by pressing the STANDBY key again on the remote or the key on the display, all the previously selected functions are reset (operating mode, set-point, fan speed, activation timer, etc.) and the timed settings for the various programmes (except for compressor rest time) are reinitialized. Machine functioning mode will be that corresponding to the activation mode. Triggering of the 'Probe KO' malfunction is enabled in this status.

3. FAN MODE

- Selectable only with the remote control. The fan is always powered in this mode and its speed can be selected at any time with the key on the remote control. All the malfunctions that can be expected for the machine are enabled in this status.

4. COOLING MODE

- Selectable only with the remote control. The fan is always powered working at the speed selected even if the compressor is powered (except for the possible triggering of the anti-explosion sub programme), otherwise it works at minimum speed. If automatic fan speed is selected (on the remote control) the following is applicable (only with the compressor ON – if the compressor is OFF speed will always be minimum):
  i. - if Tamb<T_set+3°C minimum fan speed is activated;
  ii. - if T_set+3<Tamb<T_set+6°C medium fan speed is activated;
  iii. - if Tamb>T_set+6°C maximum fan speed is activated.
- Between one automatic speed change and another at least 3 minutes must elapse.
- The compressor is turned on for Tamb>=Tset+Hy and turned off for Tamb<=Tset (except if the anti-ice programme turns on). The antiexplosion sub programme forces the fan to work at top speed (only if the compressor is working) for ambient temperature Tamb>Tmax; the sub programme finishes for TambîTmax-2°C (without any time limits). The anti-ice sub programme, that starts at Tamb<Tmin and finishes at Tamb>Tmin+2°C, cyclically interrupts the compressor with Tp_on and Tp_off timings.
- The set-point (Tset) can be adjusted on the remote from 18°C to 30°C with 1°C steps; minimum scale value (Scala_m), hysteresis (Hy) and scale point steps (Step) can be set during programming. Activation of the compressor must be after a minimum Rest_time (180sec) after powering of the circuit or after a previous compressor switch-off. All the malfunctions that are expected for the machine are enabled in this status.

5. DEHUMIDIFIER MODE

- Selectable only with the remote control. It works very much like cooling except for fan speed selection which is forced at minimum (and cannot be changed), the Tset setting which is set equal to Tamb each time the function is activated (and then cannot be changed) and for compressor operation which is controlled in the following way:
  i. - ON continuously for Tamb>Tset+2°C
  ii. - 6 minutes ON and 6 minutes OFF for Tset-2°C<Tamb<Tset+2°C
  iii. - 6 minutes ON and 12 minutes OFF for Tset-4°C<Tamb<Tset-2°C
  iv. - OFF continuously for Tamb<Tset-4°C
- In this condition, the antiexplosion and anti-ice sub programmes are enabled and all the malfunctions that are expected for the machine can be signalled.

6. NIGHTTIME MODE

- Selectable only with the remote control. This mode can only work with the cooling function. When the NIGHTTIME mode is activated, fan speed is forced at minimum and the Tset is increased 1°C after 1 hour and then again 1°C after 2 hours. Changing the Tset on the remote, putting the machine in Standby or powering off resets the function’s timer. All the malfunctions that are expected for the machine are enabled in this status.

7. AUTOMATIC MODE

- Selectable either on the remote or on the display-unit pressing the key for at least 5 seconds (in the latter case only with the machine previously on STANDBY, no ongoing malfunctions and after DIAGNOSTICS, specified below). In this mode, also signalled locally on the display-unit when LED DL4 turns on, either the COOLING or FAN function is selected automatically depending on the constantly monitored room temperature:

  i. -If Tamb>23°C the fan works at minimum speed;
  ii. -If Tamb>23°C the system works in the cooling mode with fan speed proportional to the extent the this temperature differs:
  iii. if 23°C<Tamb<25°C minimum speed is selected,
  iv. if 25°C<Tamb<27°C medium speed is selected, if Tamb>27°C maximum speed. After each variation, fan speed remains constant for at least 3 minutes to avoid annoying hunting.

- All the various sub programmes of the general automatic function will work in the same way and have the same alarms defined in the single operating modes.

8. PROGRAMMING TIMES

- Programming entails activating two operating intervals in the 24-hour period, signalling when the function starts on the display-unit with LED DL3. The remote control communicates the “current” time to the board in question at each transmission. The latter stores the current time in the eeprom every 10 minutes so in the event of a blackout (besides its actual duration) machine activation times are no more than 10 minutes. Machine functioning mode will be that corresponding to the activation mode.

9. SPECIAL FUNCTIONS

- - DIAGNOSTICS: this is started with the machine on STANDBY, pressing the key on the display-unit for at least 5 seconds. The corresponding LEDs blink for 5 seconds after which the indication “AUTOMATIC” is activated (continuing until the ongoing phase finishes) and simultaneously the fan first works at minimum speed, then at medium speed and lastly at maximum speed 3 seconds each time. The compressor is started at the end of fan speed scanning (without observing any 3 minute pause and for any temperature measured by Tamb) for a time equal to Tdiag with fan fixed at maximum speed. At the end of this phase, the unit goes to the AUTOMATIC mode (maintaining the indication already given) as described above.
- In the case of a blackout the unit must store the previous mode in the eeprom and resume the function that was interrupted the instant power returns (except for the DIAGNOSTICS function, which, in the case of a blackout, the machine most set itself on STANDBY).

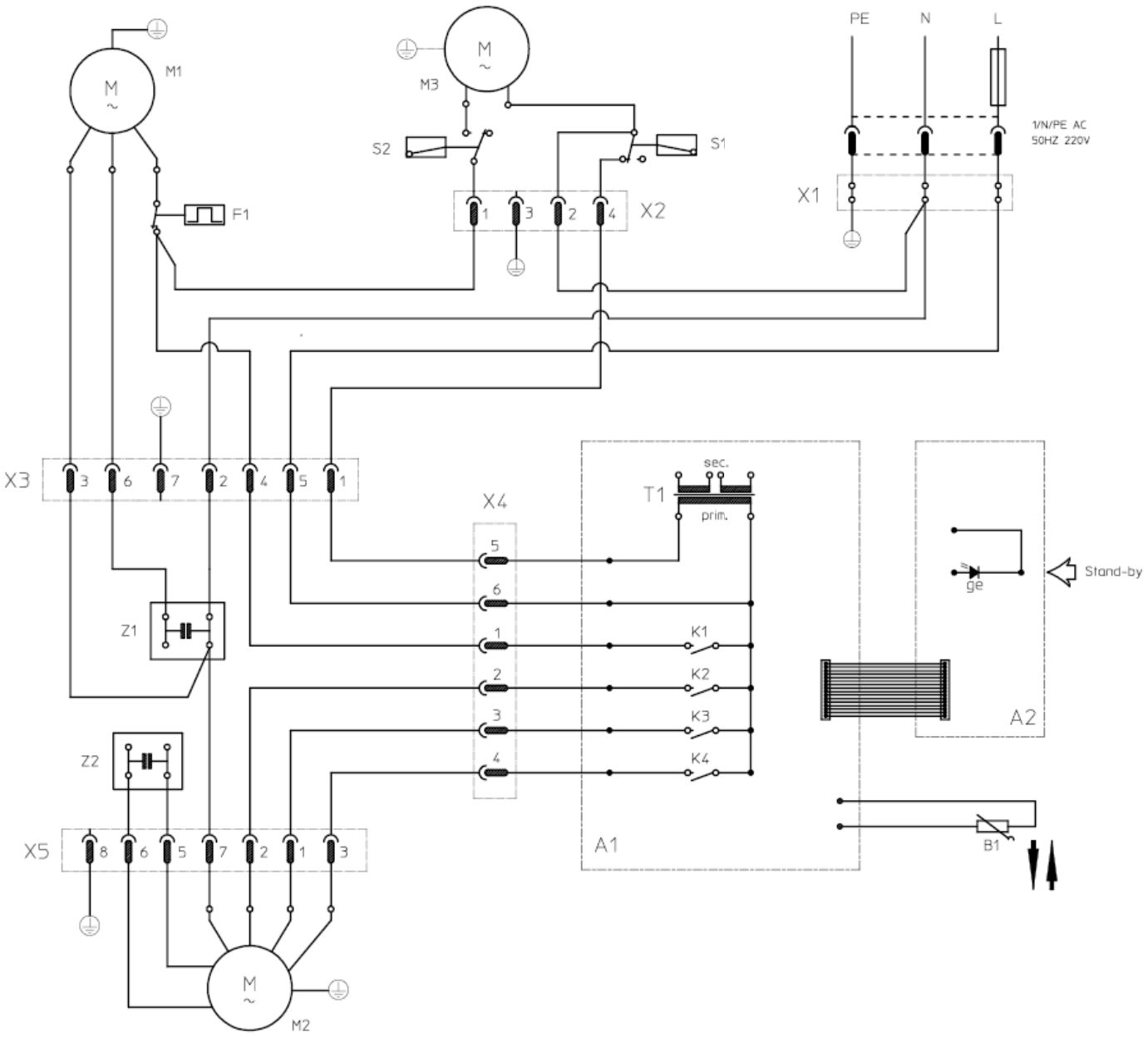
10. DISPLAY INDICATIONS

DESCRIPTION	GREEN LED	YELLOW LED	GREEN LED	RED LED
Standby				ON
Machine on			ON	
Timer(s) on		ON	ON	
Automatic operation	ON		ON	
Malfunctions				
“Dirty filter” malfunction			ON L*	
‘Probe KO’ malfunction	ON L*	ON L*	ON L*	
SELF-TEST operation	ON L*	ON L*	ON L*	ON L*

*) ON L = blinks for 1 second ON, 1 sec. OFF.

WIRING DIAGRAM

A1	Electronic power board
A2	Electronic command board
B1	Thermostat probe
F1	Compressor thermal protection
K1	Relay for compressor
K2	Relay for fan (MED)
K3	Relay for fan (MAX)
K4	Relay for fan (MIN)
M1	Compressor
M2	Fan
M3	Condensate discharge pump
S1	Safety micro switch
S2	Pump micro switch
T1	Transformer
X1	General power supply terminal board
X2	4-pole connector
X3	9-pole connector
X4	6-pole connector
X5	8-pole connector
Z1	Compressor condenser
Z2	Fan condenser



A1 = Scheda elettronica di potenza
A2 = Scheda elettronica di comando
B1 = Sonda termostato
F1 = Protettore termico compressore
K1 = Relais per compressore
K2 = Relais per ventilatore (MED.)
K3 = Relais per ventilatore (MAX.)
K4 = Relais per ventilatore (MIN.)
M1 = Motocompressore
M2 = Ventilatore
M3 = Pompa smaltimento condensa
S1 = Microinterruttore di sicurezza
S2 = Microinterruttore pompa
T1 = Trasformatore
X1 = Morsettiera alimentazione generale
X2 = Connettore 4 poli
X3 = Connettore 9 poli
X4 = Connettore 6 poli
X5 = Connettore 8 poli
Z1 = Condensatore compressore
Z2 = Condensatore ventilatore

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