



Electronic Display Users Manual

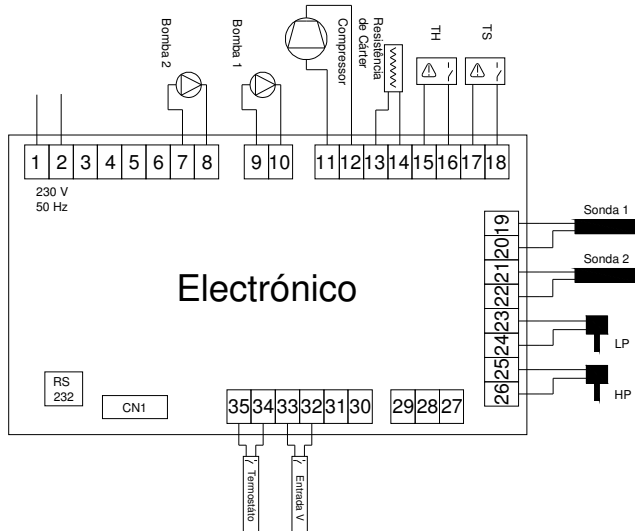
SY225

Version 3.2



The ENERGIE SY225 Electronic is an instrument for monitoring/controlling the thermodynamic solar system ENERGIE. It enables the configuration of several working parameters of the equipment that can be adjusted to the system's operation and user's operation.

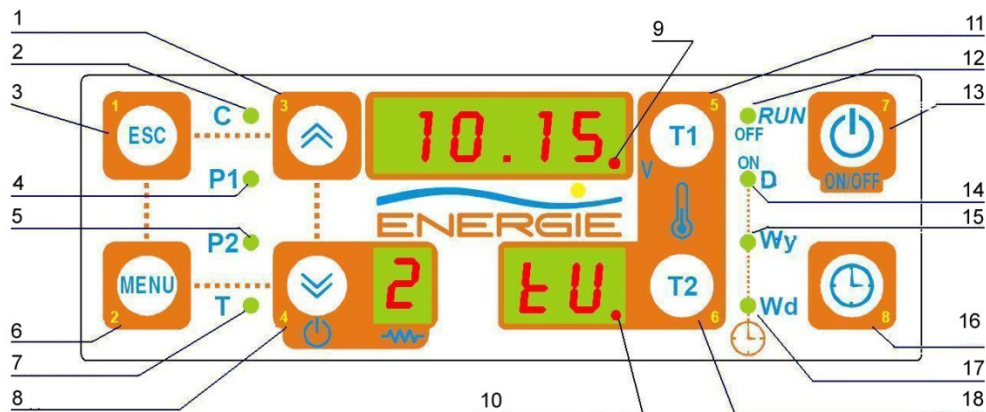
Connection Box



Connections	Function
1-2	Power 230Vac
7-8	Pump 2 (SHW)
9-10	Pump 1 (Central Heating)
11-12	Compressor
13-14	Crankcase resistor
15-16	TH input (Thermal)
17-18	TS input (T. Safety)
19-20	Probe 1 (Water)
21-22	Probe 2 (Gas)
23-24	LP input (Pressure controller at low pressure)
25-26	HP input (Pressure controller at high pressure)
32-33	V input (Pump 2 thermostat)
34-35	Room temperature thermostat




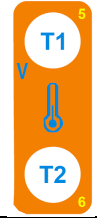


Control Panel

The control panel is the interface between the equipment and the user. It enables you to check how the system is working and its parameters.



- 1 – Selection Button (+)
- 2 – Compressor Led
- 3 – Esc Button
- 4 – Pump 1
- 5 – Pump 2
- 6 - Menu/Set Button
- 7 – Room Temperature Thermostat Led
- 8 – Selection Button (.)
- 9 – Thermostat Led SHW

- 10 – Led S2: Probe 2 Viewing (gas)
- 11 – Viewing Button Probe 1
- 12 - RUN Led
- 13 – ON/OFF Button
- 14 – Daily Chrono Led
- 15 – Weekly Chrono Led
- 16 – Chrono Display Button
- 17 – Weekend Chrono Led
- 18 - Probe 2 Viewing Button

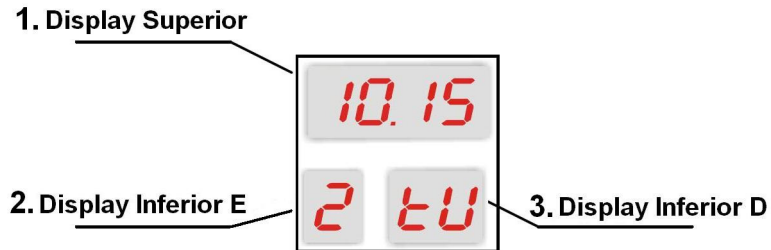
BUTTON	FUNCTION		DESCRIPTION
	1	ON\OFF	Turn the equipment on/off (press and hold for 3 sec).
	1	MENU	Menu Function.
	2	SET	<ol style="list-style-type: none"> 1. Enter Menu and Sub-menu 2. Enter changing parameters option 3. Save data
	1	PARAMETER SELECTION	Enables selection/modification of the parameter on the menu and sub-menu.
	1	TEMPERATURE READING	Enables visualization of the 2 temperatures (S1 and S2).
	2	DATA CHANGE	Enables changing/modification of the parameter's values.
	1	ESC	ESC Function to exit the menu or sub-menu.
	1	CHRONO THERMOSTAT	Function for activating the chrono thermostat and selecting the type of program (press and hold for 3 sec)

Leds

LED	FUNCTION	DESCRIPTION
RUN	ON\OFF	Led ON: Normal Condition Led OFF: Off Condition Blinking Led: Safety Condition
C	COMPRESSOR	Led ON: On Led OFF: Off Blinking Led: Timer running
P1	PUMP 1	Led ON: Pump working
P2	PUMP 2 (Ex. SHW)	Led ON: Pump working
T	ROOM TEMPERATURE THERMOSTAT	Led ON: Room temperature lower than the intended value
D	CHRONO PROGRAM	Led ON: DAILY Chrono program
Wy	CHRONO PROGRAM	Led ON: WEEKLY Chrono program
Wk	CHRONO PROGRAM	Led ON: WEEKEND Chrono program

Displays

The Electronic includes 3 displays (screens) which enable the viewing of different parameters on each one:




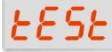

1. Upper Display			
Examples	Description	Examples	Description
20.30	- Hour	LP	- Error (ex. Low Pressure)
CHEC	- System's timer running	Cr on	- Chrono programming

2. Lower Left Display		
Examples	Description	Examples
-	- Resistor condition	ON: Resistor on Blinking: Resistor's timer running OFF: Resistor off
2	- Sub-menu parameter	"PAR" Sub-Menu (1 to 8 parameters) "TESE" Sub-Menu (1 to 4 parameters)

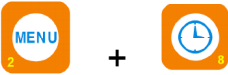






3. Lower Right Display		
Examples	Description	Examples
20	- Probe 1 Temperature	- Water return temperature
25	- Probe 2 Temperature	- Gas temperature (safety)

Programming / Functioning of the Control Panel

The Electronic features 3 configuration Menus, which are:

Nr	SECRET MENU	DESCRIPTION
1		PROGRAMMING MENU
2		OUTPUT TEST MENU (only in OFF condition)
3		COUNTER MENU

Procedures for viewing and changing parameters on the secret menu.

Press and hold the 2 buttons for 3 seconds	
Choose Menu	
Select the Menu and press the button	
Enter and change the condition	
Buttons for changing the parameter's value	
Save setup value	
Exit menu and sub-menu	

Programming Menu (PAR)

This menu enables viewing/modification of the temperature values of probe 1 (water) and probe 2 (gas), as well as the timers and the sequence of circulating pumps. Upper display shows the temperature value or the time. Lower right display shows the parameter code (ex. P01, 02...)

THERMOSTAT					
Code	Type	Name	Min (°C)	Max (°C)	Original setup
P01	S1	Minimum water temperature	0°	60°	2°
P02	S1	Maximum return temperature	10°	70°	45°
P03	S1	Alarm temperature	10°	75°	50°
P04	S1	Temperature variation	1°	10°	5°
P05	S2	Maximum gas temperature	10°	80°	60°
P06	T1	Compressor timer	0 min	20 min	1 min
P07	T2	Start-up/malfunction timer	0 min	60 min	20 min
P08	B	Configuration of circulating pumps	0	1	0

Note: Sequence of circulating pumps

- **P08 = 0** → **Pumps working simultaneously**. Input T controls Pump 1, Input V controls Pump 2
- **P08 = 1** → **Priority to Pump 2 (SHW)**. When Input V is closed, Pump 2 is ON and Pump 1 is OFF. Only when Input V is open, Pump 2 is OFF and Pump 1 is ON.



Warning!

Do not change preset values for P03 and P05 (in case changes are necessary, please contact the technical department).

*P07 value should **NEVER** be lower than 20 min.*

Output Test Menu (Test)

TEST

When the system is turned off (OFF), it enables testing all outputs (Compressor, crankcase resistor, Pump 1, Pump 2)

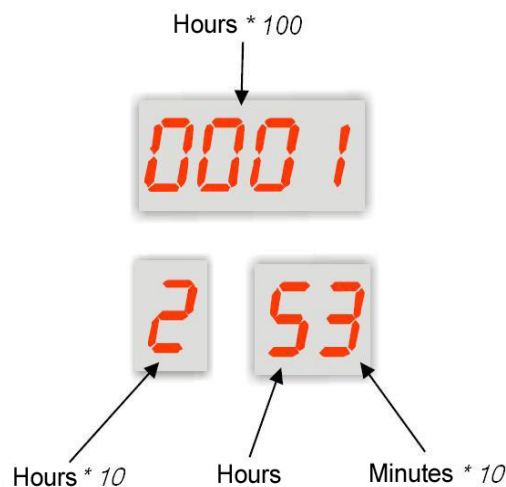
Counter Menu (Coun)

Coun

This menu enables viewing the system's working time (compressor). This menu includes 2 sub-menus:

- ComP** (reading of the compressor's working time).
- rES** (reset hour counter to 0)

Hour counter format on the display:



Example above: 125 hours and 30 minutes

“WORKING” condition

The ENERGIE (SY225) Electronic features 4 working conditions. This chapter includes an explanation of the working conditions for controlling the inputs and outputs.

Conditions:

- 1- OFF
- 2- CHECK-UP
- 3- NORMAL
- 4- SAFETY



“OFF” condition

In off condition the panel indicates:

- Display OFF (only the clock is presented)
- Compressor, Pump 1 and 2, Crankcase resistor – OFF (all off)

“CHECK-UP” condition

In timer condition (check-up), the Electronic checks all the connections, including the probes' connections; the panel indicates:

- Display CHECK (the word Check is presented on the upper display)
- Compressor, Pump 1 and 2, Crankcase resistor – OFF (all off)

“NORMAL” condition

In working condition (normal) the control panel presents:

Display		Upper display – clock Lower display - probes' temperature
Compressor	ON	Probe 1 temperature > P01 and <P02, and all contacts are closed (T, LP, HP, TH, TS) and P06 time has been surpassed.
Pump 1	ON	Probe 1 temperature > P01, and all contacts are closed (T, LP, HP, TH, TS).
Pump 2	ON	Probe 1 temperature > P01, and all contacts are closed (T, V, LP, HP, TH, TS).
Crankcase Res.	ON	System star-up (P07 time) LP is open (malfunction caused by low pressure)

“SAFETY” Condition







In safety condition (safety), the Electronic protects the equipment from possible malfunctions, such as:

- Safety thermal (TH)
- Safety thermostat (TS)
- Low pressure (LP)
- High pressure (HP)
- Damaged probe (L0, Hi)

Display		Error message (ex. HP)
Compressor	OFF	
Pump 1	OFF	Except if the malfunction is caused by high pressure (HP), the Pump stays ON
Pump 2	OFF	Except if the malfunction is caused by high pressure (HP), the Pump stays ON
Crankcase Res.	OFF	Except if the malfunction is caused by low pressure (LP), the Pump stays ON

Errors

The equipment is protected by several components. Each time the relevant protection component is activated, a malfunction message is presented, such as:

- **Tn:** Safety thermal 
- **Ts:** Safety thermostat (temperature probes) 
- **LP:** Low pressure (LP) 
- **HP:** High pressure (HP) 
- **Lo:** Probe disconnected 
- **Hi:** Probe in short-circuit 










Note: To understand the reason for possible malfunctions (errors presented), please refer to the technical manual.

Clock Programming (Clock)

To set the hour and date, please perform the following steps:

- Select the MENU button
- On the upper display, please set the time
- On the lower right display, please set the week day;

Represented by:

-  Monday
-  Tuesday
-  Wednesday
-  Thursday
-  Friday
-  Saturday
-  Sunday

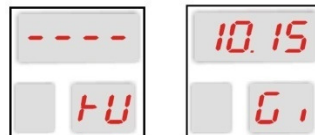
Chrono Thermostat Programming

Please, follow the procedures presented below to select an automatic program from the Chrono Menu.

PROCEDURES			
INSTRUCTIONS			BUTTON
To modify Chrono's programming, please press and hold the button for 3 sec. If the same button is pressed again, it's possible to select one of the following four modes			
DAILY	WEEKLY	WEEKEND	NONE

- Menu for programming system's automatic turn ON/OFF.
- Includes 3 sub-menus with 3 programming modes on each one.
- The upper display presents:
 1. (- - -) if programming is OFF
 2. On or OFF time if the programming is on

N.B. For turn off time, the OFF Led is on
For turn on time, the ON Led is on



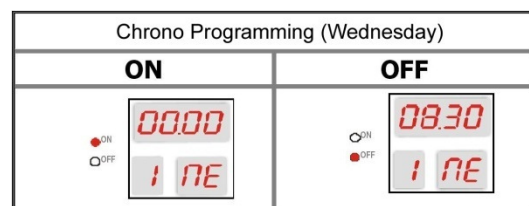
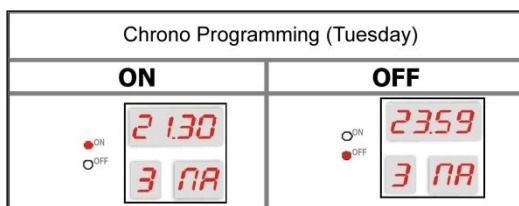
For each hour it's possible to change the minutes in 15 minute intervals (ex. 08:00 PM, 08:15 PM, 08:30 PM, 08:45 PM). Only for 11 PM it's possible to modify each minute, from 45 to 59.

PROGRAMMING		
	INSTRUCTIONS	BUTTONS
1	Enter Menu	
2	Choose Chrono option	
3	Enter Chrono Menu	
4	Choose the Sub-menu Daily, Weekly or Weekend	
5	Enter the selected sub-menu	

6	Choose the sub-menu until <ul style="list-style-type: none"> The correct day (for daily or weekend) Programming (1 to 3) Clock ON	
7	Clock activation N.B.: activation using ON and OFF	
8	Enter mode change The value (hour, minutes) is blinking	
9	Modify the selected value (hours)	
10	Save the hour and select minutes	
11	Modify the selected value (minutes)	
12	Save	
13	Select turn off time (OFF)	
14	Repeat operations from 9 to 12 to turn off (OFF)	
15	Exit sub-menu and Chrono menu	

Examples:

- For programming the hour of the week day to turn off at 11:59 PM
- For programming the hour of the next day to turn off at 12:00 AM



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