TiEmme
elettronica

applicazioni elettroniche - termoregolazioni
electronic applications - thermoregulation

SY 250

Thermoregulator **SY250** for multicombustible stoves\boilers

PRODUCT COMPOSITION:

A. Board controller SY250
B. Control panel
C. Remote radio control
D. Temperature Probes
E. Other probes (to be defined)

1) HARDWARE CHARACTERISTICS

A. Board Control SY250

INPUT Low Voltage avaible inputs total n. 10
To read:
1. Exausting Temperature Thermocouple
2. Combustion Temperature Thermocouple
3. Boiler water temperature
4. Ambient Temperature
5. Exanger Temperature
6. Sanitary water
7. Pellet Level Probe
8. Water Flow Sensor (FlowSwitch)
9. Input GSM to start/stop with SMS
10. Flame presence probe
11. Boiler water pressure
12. Fan speed revolution
13. Others
    ❖ Boiler stratified Temperature
    ❖ Solar Panel Temperature for integrated systems
    ❖ Contacts ON/OFF

INPUT High Voltage (230 Vac) available total n. **02**
To read:
1. Pressurestate (exausting evacuation)
2. Safety Thermostat (manually rearmed)
3. Other…

OUTPUT available total n. 07
To control:
1. Auger engine 230 Vac regulated in ON/OFF modality
2. Combustion fan engine with two possible regulations: per cent and rpm (encoder)
3. Heating fan engine (primary and secondary exanger) with per cent regulation
4. Pump/Circulator
5. Water sanitary Pump/ElectricalValve
6. Ignition Resistence
7. Electrical valve/engine to automatic burner cleaning
8. Others:
    ❖ Second Auger for Multifeeding
    ❖ Second Combustion Fan
    ❖ Electrical Valve
    ❖ Gas Boiler Consent
    ❖ Solar Pump for integrated systems

Output Modules analogic: ▪ Output regulated 0 – 5 Vdc ▪ Output regulated 0 – 10 Vdc	

Communication ports:
♦ Serial port RS232 on Board for PC communication
♦ Communication port for control panel
♦ Serial port RS485 on Board for optional module as:
  ♦ **LAMBDA module**
  ♦ On line diagnostic

Radio control TX4:
♦ Unidirectional Radio **SYTX4**

Radio control *2WAYS*:
 Wireless radio module for bidirectional communication with system 2WAYS **Radio Hand Held**

 Other default features:
♦ Module RTC for programmable ignitions (three manners available:Daily, Weekly, weekEnd)
♦ Communication with PC on serial port with software *System Evolution*
♦ Programmation system *KEY-System* with a key (pen memory) to upload and download firmware
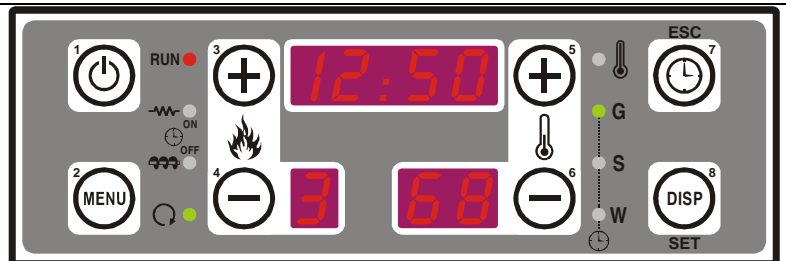
 Mechanical dimensions:
• **Board**:   160 x 115 mm
• **Box:**   180 x 130 x 55 mm

<u>**B.**</u> **Control Panels**

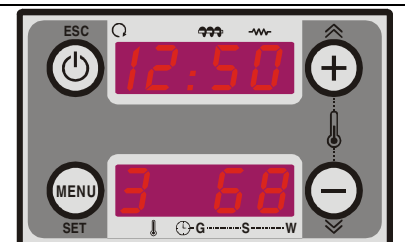|	
1. **CP120 : Control panel with 8 buttons** Control panel enclosed in a packed shell with block of board flat ❖ 8 programmation buttons ❖ 1 display with 4 digits ❖ 1 display with 2 digits ❖ 1 display with 1 digits ❖ dim: 154 x 56 x 16 mm	
2. <u>**CP110**</u> **: control panel with 4 buttons** Control panel enclosed in a packed shell with block of board flat ❖ 4 programmation buttons ❖ 2 displays with 4 digits ❖ dim: 88 x 58 x 16 mm	
3. <u>**CP100**</u>**: control panel with 4 buttons** ❖ 4 programmation buttons ❖ 1 display with 2 digits + led dim: 120 x 40 mm	
1) **Control Panel LCD** ❖ 6 programmation buttons ❖ Graphic LCD backlight ❖ dim 134 x 82 mm	

C. Remote Radio control	

1) Unidirectional Remote Radio TX4 4 channel remote radio for programmable functions as: ❖ ON\OFF ❖ Power change ❖ Thermostat change ❖ Programmable Dialog code configurabile with autolearning sequence ❖ Dim: 70 x 40 x 18 mm	
2) Hand held terminal 2WAYS ❖ Bidirectional radio communication ▪ Can send Radio commmands ▪ Can receive radio information from control board ❖ Monochromatic graphic LCD with 108 x 80 dots ❖ 10 meters of range in trasmission and reception ❖ Battery power ❖ Ambient thermostat function through an internal sensor ❖ 5 buttons keyboard ❖ Clock function ❖ Chrono function for programmable ignition ❖ Wall mounting system	

D. Temperature Probes	

1) Smoke Probe ❖ Teflon cable 0 – 280 ℃ ❖ Thermocouple K 0 – 550 ℃ ❖ Extended Thermocouple K 0 – 1200 ℃ **2) Exchanger Probe** ❖ Santoprene cable 0 – 110 ℃ ❖ Silicon cable 0 – 200 ℃ ❖ Teflon cable 0 – 280 ℃ **3) Ambient Probe** ❖ PVC cable 0 – 50 ℃	

E. Other probes to be defined	

❖ **Photo Probe** ❖ **Air Primar Sensor** *MODULA* ❖ **Flow Sensor (Flowswich)** ❖ **Pressure Water Sensor** ❖ **Level Pellet Sensor** ❖ **Others. . .**	

2) SOFTWARE

A. *SYSTEM Evolution*
♦ *Software* for database management of functioning programs
♦ **Real time *Programmation*** of 'functioning recipes'
♦ ***Real time Monitor*** of functioning states
♦ ***Firmware upload\download* management through *KEY-System***
B. *LOGGER:*
♦ **Monitoring Software** of variables, states and timings
♦ **Possibility of database creation for temporal analysis and functioning statistics**

3) *FUNCTIONING FEATURES*

System functioning features can be developed with the client in order to his requirements and according to control board characteristics.