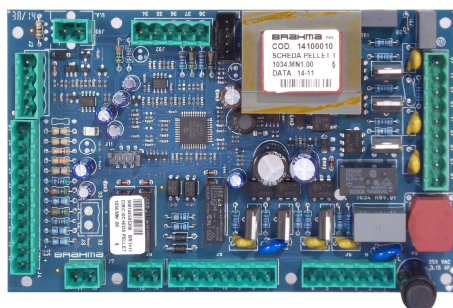


HYDRO & AIR PELLET BOARD TYPE 1034

BRAMA

DIGITAL CONTROL BOARD FOR DOMESTIC WOOD PELLET STOVES WITH AIR-TO-AIR OR AIR-TO-WATER HEAT EXCHANGER

- ❑ **Pellet Kronos**
AMBIENT UNIT WITH USER AND
INSTALLER INTERFACE AND TIMER
THERMOSTAT FUNCTION
- ❑ **Pellet Board Type 1034**
POWER UNIT FOR ON-BOARD STOVE
LOAD CONTROL
- ❑ **Remote Control Unit**
AMBIENT UNIT REMOT CONTROL
(OPTIONAL)



DESCRIPTION

The Brahma "HYDRO & AIR PELLET" board type 1034 enables to automatically control the electrical loads in domestic wood pellet stoves and boiler stoves.

When connected to a Brahma ambient unit performing user interface and programmable timer thermostat functions, the board allows to optimize room comfort and to reduce fuel consumption.

Data communication between the two units occurs by means of a two-wire cable.

We recommend installing the user interface in an easily accessible position suitable for room temperature measuring.

The main units can be fitted with a simple and user-friendly IR remote control unit allowing to easily interact with the user interface and to enable its main functions.

GENERAL CHARACTERISTICS

Pellet Kronos

- exclusive Brahma design
- backlit graphic LCD, 128x64 dots
- diagnostics/signalling LED
- 6 variable function keys
- remote control unit IR receiver
- to be mounted on the stove in a handy position or to be installed on the wall
- SELV (Safety Extra Low Voltage) insulation
- simple (non-polarized) connection to the power unit by means of a two-wire cable, having both the function of power supply and data communication support

Pellet Board Type 1034

- domestic single-phase network power supply (230Vac 50Hz)
- to be mounted inside the stove in a position not to be reached by the user
- supports the power supply and communication of the ambient unit (Eco Pellet or Pellet Kronos) for the stove remote control (by means of a two-wire cable with a length up to 50m)
- integrated diagnostics/signalling LED
- controls all loads in the hydraulic system and in the stove
- modulates the combustion power (air/pellet ratio)
- available inputs for the connection to an air pressure switch and a safety thermostat
- possibility to control multi-fuel stoves
- available inputs for temperature measuring in different rooms
- possibility to control multiple air-to-air exchangers for ducted stoves
- prearrangement for domestic hot water control
- support for pellet level sensor with open-collector output
- prearrangement for an input air volume flow sensor
- available power-free contact auxiliary outputs that can be programmed for the control of mechanical organs
- electromagnetic compatibility (EMC) interference suppressor
- wirings and fixings compatible with Brahma board type 1029 suitable for load control in air pellet stoves

Remote Control Unit

- infrared, unidirectional
- 5 function keys
- lithium button cell type CR-2032
- no consumption in stand-by

PELLET BOARD TECHNICAL DATA

Operating temperature: 0°C +60°C

Humidity: 95% max. at 40°C

Pellet Board Type 1034

Power supply: 230Vac-50Hz

Protection rating: IP00

Weight: 0,276 Kg

Relay outputs: max. 1,0 250Vac $\cos\phi\geq 0.4$ (inductive) 60°C

Triac outputs: max. 0,5A 250Vac inductive loads

Thermal fuse protection: 3,15A/250V (loads included)

Dimensions: 160x100x45 mm

Pellet Kronos

Power supply: low voltage, obtained through the communication with the power unit

Protection rating: IP30

Weight: 0,170 Kg

Dimensions: 140x90x32 mm

Remote Control Unit

Power supply: CR-2032 lithium cell

Protection rating: IP30

Weight: 0,044 Kg

Dimensions: 100x43x21 mm

ACCESSORIES

The system can be supplied complete with Brahma NTC temperature probes to be connected to the power unit for room and/or water temperature detection.

The optional use of a Brahma photocell type FC8 enables flame detection in combination with a thermocouple.

The kit can also be fitted with a flow sensor type SF1; this sensor, mounted inside the intake duct of combustion systems, provides an indirect measure of the combustion air flow rate.

DIRECTIONS FOR INSTALLATION

Respect the applicable national and European standards (e.g. EN60335-1/prEN50165) regarding electrical safety. Before starting the unit check the cables carefully; a wrong wiring can damage the devices and compromise the safety of the installation. Connect and disconnect the system only after switching off the power supply. Avoid exposing the system to dripping water.

WIRING THE POWER UNIT TYPE 1034

All connections on the electronic board (i.e. power unit) are arranged by means of pull-out screw terminal blocks.

In Figure 17 (page 12/16) you can find all the connections available on the board, including optional ones.

Table 10 (page 13/16) shows in detail the functions of the various terminals for each connector.

The control board type 1034 must be connected to an ambient unit implementing the interface for both the end user and the installer and providing timer thermostat and service functions.

AMBIENT UNIT REMOTE CONTROL (Optional)

The remote control unit enables to control the system switch-on and off. It also allows you to remote-adjust the main settings regarding the required power level and room temperature.

The remote control unit, to be used by pointing it at the ambient unit, enables the user to remote-control the simplest settings:

- ON/OFF (by simultaneously using the "-" keys);
- automatic or manual, to enable or disable the operation programmed through the timer;
- flame power variation;
- required room temperature setting.

Figure 2 shows the remote control unit keys and their functions.

WALL-MOUNTING THE AMBIENT UNIT

In order to mount the base on a wall, first of all open the front cover containing the user interface electronic board, by softly pressing the trapezoidal push-button with the word "PUSH" placed on the bottom side of the unit, and then rotate the front cover upwards until it is completely removed as shown in Figure 1.

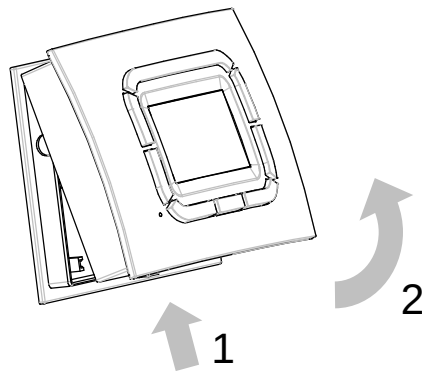


Figure 1: directions for opening the front cover

- 1) press push-button "PUSH"
- 2) rotate upwards

To fix the base you can use the various eyelets available on its back, which are suitable for the most common centre-to-centre distances used in domestic installations; to this subject see Figure 20.

After fixing the base, you can wire the ambient unit electronic board through the pull-out terminal block and without having to pay attention to polarity (the two conductors can be reversed).

We recommend using a two-wire cable (for example H03RR-F or H03VV-F) with a section between 0,5 mm² and 2,5 mm², paying attention not to exceed a length of 50m and bearing in mind that in any case the resistance of each conductor should not exceed 5Ω. In the rooms with particularly strong electromagnetic interference we recommend using a shielded two-wire cable.

Once the wiring has been accomplished, mount the front cover on the base by fixing it to the top hooks and then rotate it downwards until it clicks into the bottom hooks.

USER INTERFACE AND DIRECTIONS FOR USE

The user interface, consisting of the ambient unit and its remote control unit, is equipped with simple and user-friendly commands.

Figure 2 shows the various parts of the user interface and the layout of the push-buttons available to the user.

AMBIENT UNIT

The ambient unit, in particular, enables the user and the installer to easily carry out several operations through few function keys thanks to the support of a graphic display. Next to each key, in fact, you can find a display area indicating the type of command currently associated to the key according to the operation status and to the menu displayed in that moment.

As shown in Figure 3, for example, when the system is off (OFF, reduced display brightness), the only enabled key is the one on the bottom left side, which turns the system on if you keep it pressed for at least 3 seconds.



Figure 3: display in "OFF" status

When the control system is on (ON), the display typically looks as shown in Figure 4. In this case, all keys are enabled and you can easily understand that the left side keys adjust the stove power level, which can vary from 0 to 9 and is displayed by means of a number and a level bar, whereas the right side keys adjust the room temperature; the set temperature appears blinking when you press these keys, while the display normally shows the currently detected room temperature.

On the top left side you can find an icon with a "plug" symbol: this is related to the communication between the HYDRO PELLET KRONOS and the HYDRO PELLET BOARD. In case of communication failure for more than 60 seconds, this icon appears blinking and the error signal ERR.09 is displayed (Table 4).

Additional elements can be displayed to inform the user about the system status. If you have selected the configuration with automatic auto-off when exceeding the room thermal differential, a small icon with the symbol "Off" will appear. If the internal clock has been adjusted, the day of the week and the current time will also be shown, as you can see on the top of Figure 4.

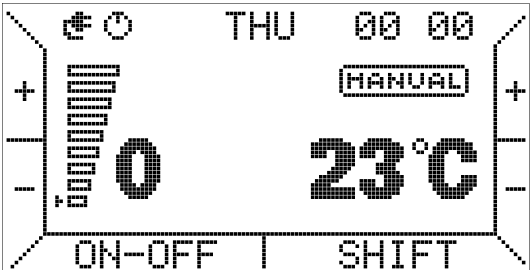


Figure 4: display in "ON" status

Just below, in the centre (see Figure 5-1), a short text describes the temperature adjustment and the flame status; the same information is also shown by a well visible icon in the centre of the display which can easily be seen even a few steps away from the stove.

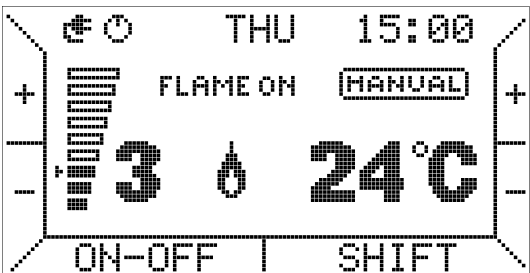


Figure 5-1: display with temperature adjustment status indication

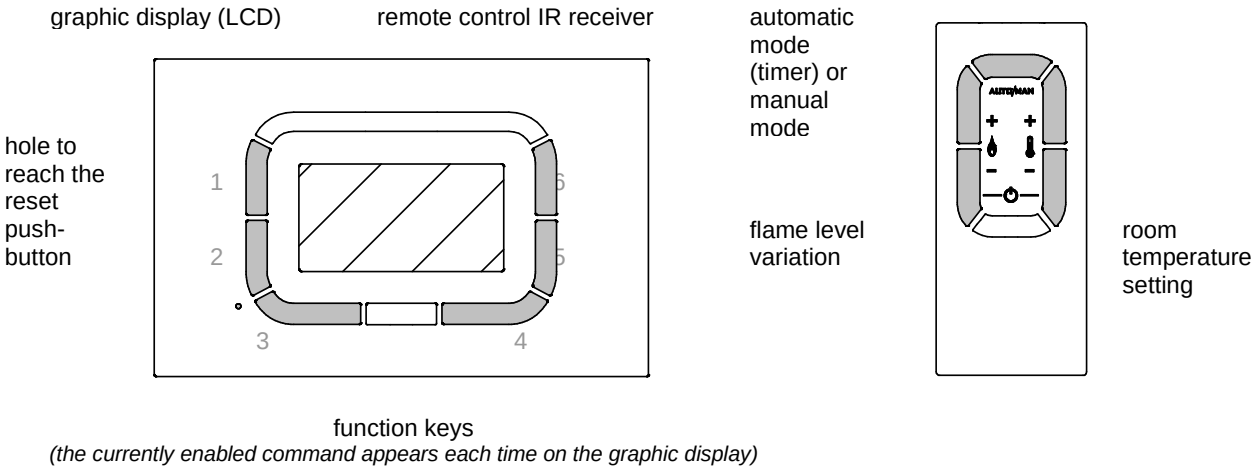


Figure 2: description of the ambient unit and the remote control unit keys

Finally, the framed text on the right side indicates whether the automatic or the manual operation modes are selected.

Table 1 shows all the available operation statuses that can be displayed.

Display	STATUS description
PRE - PURGE	Pre-purge
IGNITION	Ignition
LOAD PELLET	Pellet loading
FLAME ON	Flame detected
ECON .	Economy operation (min. power)
SERVICE	Call for service
TEMP . OK	Room temperature reached
NO TIMER	The weekly program plans no ignition at the current time
COOLING	Switching off (cooling)

Table 1: operation statuses appearing on the display

In normal operation, the bottom left side key keeps its own function [ON-OFF], while the bottom right side key [SHIFT] has the function of shifting the commands associated to the other keys: if you keep it pressed, in fact, the symbols on both sides of the display will change, as you can see in Figure 5-2, whereas while pressing [SHIFT] and one of the other keys simultaneously, various functions can be enabled.

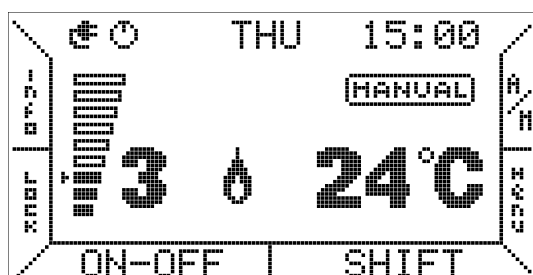


Figure 5-2: display with SHIFT key pressed: highlighted are the icons corresponding to various key functions

USING THE [SHIFT] KEY

[SHIFT] + [INFO]

It displays information about the activation of the stove loads and their power modulation, as shown in Figure 6. This function is particularly useful to the service technician, but it can also enable the end user, if required, to have anytime a quick overview of the stove operation. Among the numeric values shown on the display, you can find the following:

Curr.Stage: indicates the current operation stage of the system: this parameter enables to understand which stage of the operating cycle is currently being performed by the stove. Table 2 shows the meaning of the values that this parameter can have.

Screw feed.: screw feeder motor start-up time referred to a period of 4 seconds.

Extr.speed: flue gas extractor speed measured in revolutions per minute.

Fumes temp.: combustion products temperature.

H2O.temp.: water temperature in the boiler stove.

H2O. pressu.: pressure in the hydraulic circuit of the stove.

No.	STAGE description
0	Off
1	Pause
2	Chamber cleaning pre-purge
3	Pellet loading / ignition (no flame)
4	Pellet ignition / flame settlement (flame on)
5	Working stage
6	ECON mode
7	Temperature OK
8	Brazier cleaning
9	Cooling
10	Failure lockout
11	Installer mode
12	Heating puffer
13	Heating DHW tank
14	Instant. DHW
15	Anti-lock

Table 2: operation stages

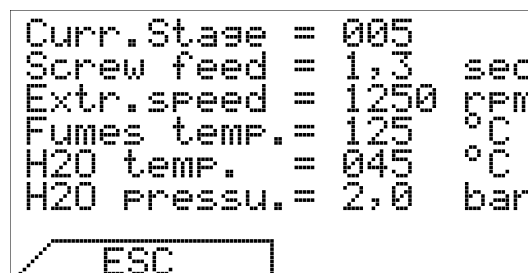


Figure 6: technical data displaying page

[SHIFT] + [A/M]

By pressing [SHIFT] and [A/M] simultaneously it is possible to shift from manual to automatic mode and vice versa. The same is possible by pressing the top central key of the remote control unit. When the command is activated, the icon "AUTO" / "MANUAL" above the room temperature indication starts blinking to indicate the preset operation mode. The setting becomes operative only after 10 seconds.

In automatic mode, the control is subordinated to the programme of the weekly timer thermostat: the stove switches on in the periods planned by the weekly program (timer) only, provided that the time has been adjusted and the room or the water temperature are lower than the related set-points.

[SHIFT] + [MENU]

This command enables to enter the main page of the system setting menus.

The display appearing to the user is shown in Figure 7. Four different menus are available, each of which can be entered by selecting the corresponding line and pressing [OK].

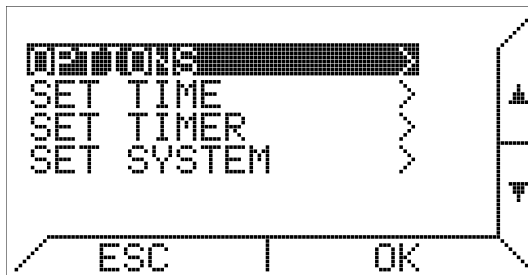


Figure 7: user interface main menu

This splitting into different setting menus has the purpose of simplifying the user's access to the most important and mainly used functions (available in the first three free-access menus), but it also enables to protect the parameters reserved to the installer/service technician that are available in the SET SYSTEM menu and are only accessible through a password.

Hereunder you can find a detailed description of each system setting menu.

OPTIONS

It contains several general options and parameters freely accessible to the user, regarding the interface (in particular the display) and the stove temperature adjustment.

Figure 8 shows the page appearing on the display when entering the OPTIONS menu.

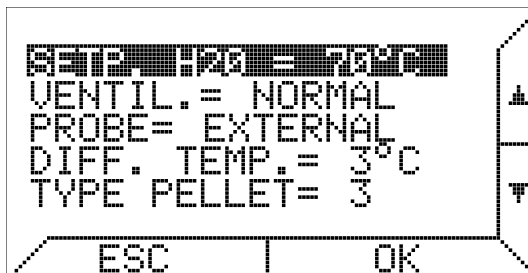


Figure 8: OPTIONS menu

Hereunder you can find the meaning of each menu item in detail:

SETP. H2O

Through this option you can adjust the set-point of the temperature measured by the probe in the boiler stove heat exchanger.

VENTIL

This is related to the behaviour of the air-to-air heat exchanger fan of the boiler stove. It allows you to select either a normal ventilation ("NORMAL", default), depending on the power level only, or a modulating ventilation ("AUTO"), depending on the heat exchanger temperature (indirectly through the flue gas temperature).

In any case the stove heat exchanger switches on as soon as the flue gas temperature exceeds a minimum value.

In "VENTIL.=NORMAL" mode the fan is running at a constant speed depending on the preset heat power level. These nine ventilation levels, corresponding to the stove power levels, can be determined through the parameters.

Through the "VENTIL. = AUTO" option the heat exchanger modulates its own speed according to the flue gas temperature, and increases its own speed linearly up to 100% as soon as the flue gas reaches the value preset through an appropriate parameter.

PROBE

This parameter determines which probe has to be used for room temperature detection: it is possible to choose either the probe mounted inside HYDRO PELLET KRONOS (INTERNAL, default) or the one placed on the stove (EXTERNAL).

SOFT COOL

This option allows to choose a low-noise cooling mode (YES, default) instead of the commonly used one (NO). In low-noise mode the air exchanger runs at a speed corresponding to the preset power level during the whole cooling stage. In "NO" mode, cooling occurs with the exchanger always running at max. speed.

DIFF. TEMP

In order to optimize temperature adjustment in the room in which the boiler stove is placed, it is possible to specify the differential from 1 degree min. to 10 degrees max.

The thermal differential (DIFF.TEMP) determines the room temperature range within which the stove operates in ECON mode. If the auto switch-off function is enabled, the stove will turn off as soon as the room temperature exceeds the related set-point for more than DIFF.TEMP. Else, if the room thermostatic switch-off is disabled, the boiler stove will enter the ECON stage as soon as the room temperature reaches the set-point and will remain in the same status with any higher temperature value.

The thermostatic auto switch-off function is signalled by an icon with the symbol "Off" in the top left corner of the display.

TYPE PELLET

In order to optimize combustion by adapting the stove operation to different types of pellet, it is possible to set this parameter, variable from 1 to 5 and corresponding to different air/pellet ratio calibrations. The default value for the type of pellet is 3. The choice of the type of pellet used is available also to the end user and does not require any particular authorization. On the contrary, the parameters defining the fuel load and the flue gas extraction speed for each type of pellet are available and can be modified by the authorized installer only by entering a password.

LIGHT MIN

When the system is on, if no key is pressed for 60 seconds the display brightness will be reduced to LIGHT MIN value, which can vary from 1 to 10 but can never exceed the LIGHT MAX preset value (max. brightness parameter). The min. brightness default value is 2.

LIGHT MAX

When pressing any key on the board or the remote control unit, the display brightness reaches the level specified by the LIGHT MAX parameter for 60 seconds. This value can vary from 1 to 10 but cannot be lower than LIGHT MIN. The LIGHT MAX default value is 5.

CONTRAST

This is useful to improve the display visibility in case it should be difficult to read.

This parameter, variable from -9 to +9 and with a default value equal to 0, does not usually require any change.

CHANGE PASSWORD

This option allows to change the password reserved to the technical service staff. The system requests a new password, which should be repeated in order to be confirmed. When pressing OK the new access code is enabled.

FACTORY RESET

This option enables to reset all parameters and configurations and to restore factory-set values. To enable this function enter the password reserved to the technical service staff.

INFO

This shows technical information about the version number of the kit parts.

TIME SERV.

This displays the stove operation hour counting (with burning brazier). The hour counting is carried out and stored in a permanent way by the ambient unit.

SET TIME

This function allows to adjust the current time and the day of the week: you just have to select the value to modify using the left keys and then adjust it through the right keys. Figure 11 shows the only page of this sub-menu.

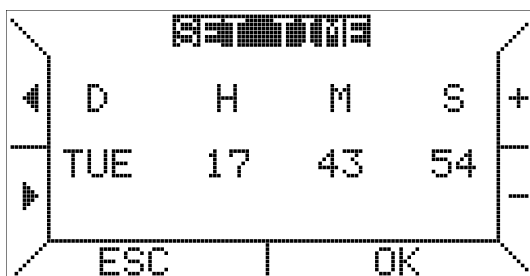


Figure 11: current time setting

SET TIMER

In automatic operation, the stove can switch on depending on the room temperature, but also according to a hour resolution weekly program called "timer". Through this sub-menu, the user can program the weekly timer according to his own needs in a very simple and user-friendly way thanks to the graphic display of the whole week (as shown in Figure 12).

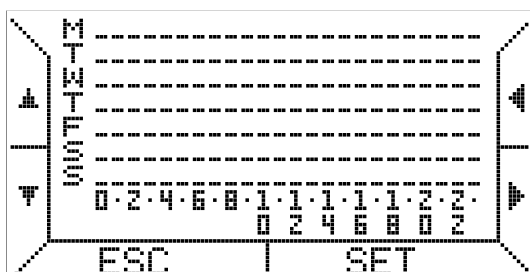


Figure 12: weekly timer programming

The days of the week are listed in seven lines starting from Monday on the top (M, Monday) to Sunday on the bottom (S, Sunday), whereas hour intervals from 0 to 23 are ordered in 24 columns.

After moving to the required position through the keys by moving the cursor vertically and horizontally, you just have

to press [SET] to enable (or disable) the stove switching on in the period corresponding to the position of the cursor. The stove automatic switch-on is subordinated to the adjustment of the current time (SET TIME) and to the actual heating demand, i.e. the room temperature should be lower than the preset value. Figure 13 shows how the display looks like when a particular hour program is enabled.

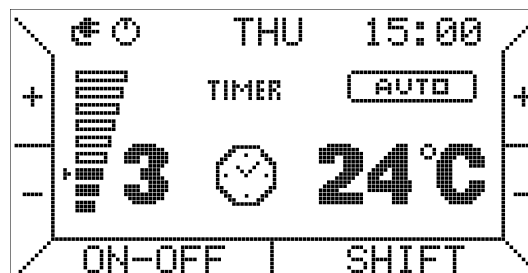


Figure 13: display in automatic operation mode

SET SYSTEM

To access system settings, it is necessary to enter a 4-figure password. It is possible to enter two valid passwords, both having the same degree of access to settings. The first password cannot be changed and is exclusively known and used by the stove manufacturer. The second password is reserved to the technical service staff and can be modified through the CHANGE PASSWORD option.



Figure 14: password request for access to "Set system" menu

Authorized access to settings allows to display the menu shown in Figure 15.

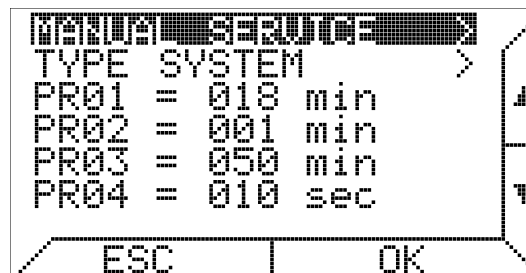


Figure 15: access to system settings

MANUAL SERVICE

This service function can be used in order to help any testing and maintenance operations: through a user-friendly interface it is possible to enable each electrical load of the stove independently. For safety reasons, it is possible to access "MANUAL SERVICE" functions only when the stove is cold and no ignition request has been initiated.

In "MANUAL SERVICE" you can adjust the flue gas extractor speed from 0 to 2500 rpm with a 10 rpm resolution, or over 9 levels corresponding to heating power levels.

The air exchanger speed can be controlled in percentage from 0 to 100%, or over 9 levels corresponding to heating power levels.

Also for the activation of the screw feeder it is possible to select an operation cycle corresponding to one of the power levels. In order to help pellet loading operations, the activation of the screw feeder can be timed from 10 to 60 minutes. Please note that also in this operation status the air pressure switch contact must anyway be closed in order for the screw feeder to be operated.

Finally you can control the manual switch-on (switch-off) of the igniter.

TYPE SYSTEM

Under this menu item it is possible to choose among 7 parameter sets. Each parameter set is provided with factory-set values, i.e. values specified by the manufacturer. It is therefore possible to associate each parameter set to a particular stove model or to the same model in different installation configurations.

All parameter sets are saved in a non-volatile memory and subsequently they can be changed individually. You can therefore use HYDRO PELLET KRONOS for several stove models, by selecting the most suitable parameter set for each stove model and according to the installation requirements.

The selected configuration is loaded on every start-up of the HYDRO PELLET KRONOS unit. During the first seconds following the first start-up or a reset of the PELLET KRONOS board, a message showing the preset configuration appears on the top and in the centre of the display.

OPERATION PARAMETERS

Each parameter of the configuration loaded by HYDRO PELLET KRONOS at start-up can be changed by the installer by entering a password. The parameters are accessible through the interface illustrated in Figure 15. They are represented by a numerical code and by a value followed by the related unit of measure. The meaning and valid fields for each parameter can vary according to the manufacturer's specific needs. The functions associated to the parameters are described in detail in the dedicated technical specifications of each product.

FORCING OPERATION STAGES FOR COMBUSTION TESTING

In order to easily carry out any combustion testing, it is possible to force some operation stages without respecting their exact sequence or the waiting time requested by the automatic control.

ERRORS AND FAILURES

If the system detects any anomaly in the stove operation, it will start the switch-off procedure and display an error code.

Table 4 shows the available error codes with a description of the corresponding failure.

Errors can be cancelled by keeping the central key pressed for more than 3 seconds. Failure cancelling leads to the error code signal disappearing from the display and the red LED switching off.

No.	Failure description
ERR01	Air pressure switch intervention (ignition / working stage)
ERR02	General thermostat intervention (high limit thermostat overtemperature)
ERR03	Ignition failure
ERR04	Switch-off in working stage
ERR05	Switch-off due to power outage
ERR06	Failure in the NTC probe close to the cold junction of the flue gas temperature thermocouple
ERR07	Room temperature probe failure
ERR08	Flue gas overtemperature
ERR09	Communication error
ERR10	Software version incompatibility error (control board / power board)
ERR11	Flue gas extractor speed error
ERR12	Hydraulic circuit low pressure error
ERR13	Hydraulic circuit high pressure error
ERR14	Error due to pressure transducer failure
ERR15	Stove switch-off due to high water temperature
ERR16	Water temperature probe failure
ERR99	Maintenance request lockout

Table 4: error codes and failure description

ALARMS AND COUNTERS REGISTER

HYDRO PELLET KRONOS can automatically store a list of alarms recently occurred while using the system. The information is useful for a quick identification of any problems related to the installation.

Special counters for the number of ignitions and operation hours are also available. You can therefore program a periodic message to remind the end user that an extraordinary maintenance operation is needed.

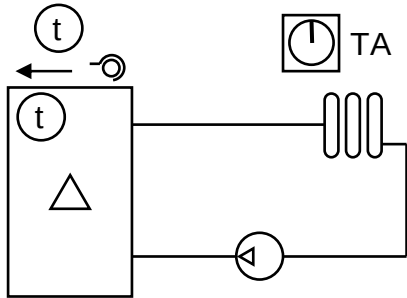
COMMUNICATION PORTS

In both units you can find some service ports reserved to the technical staff for special operations as, for example, firmware updating.

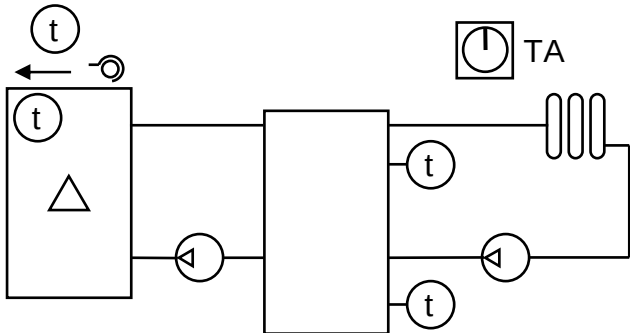
PLANT MANAGEMENT

The system is programmed to manage the following types of plants:

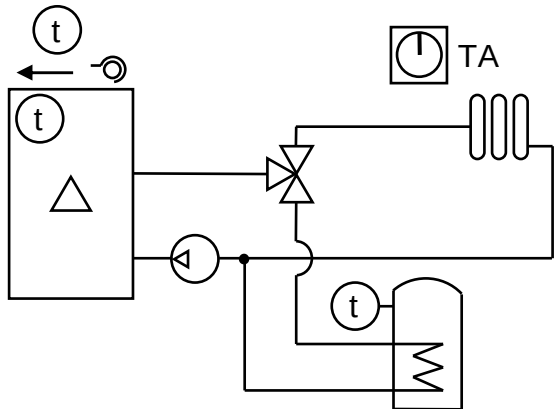
a) CH through the direct connection of the boiler stove to the heating plant



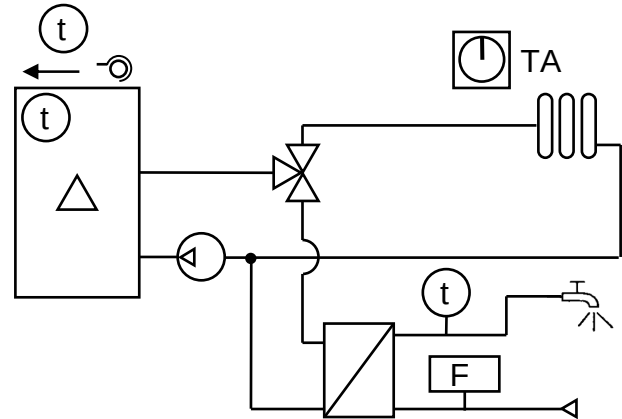
b) CH with the support of a puffer



c) CH and DHW tank



d) CH and quick DHW with plate heat exchanger



The available service requests are represented by means of icons appearing on the display, as shown in the example of Figure 16:

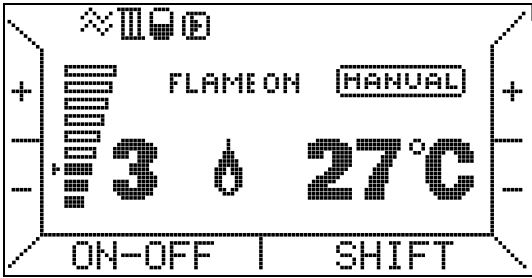


Figure 16: display with active request and status icons

Table 5 lists some icons representing heating requests or system statuses.

PRIORITY MANAGEMENT

The kit can manage the priority of all active service requests. As a rule, priority is given to DHW requests followed by CH requests.

POWER ADJUSTMENT

The system can be parameterized according to the type and size of thermal plant. Through the configuration parameters, the installer can determine the behaviour of the automatic power adjusters specific for each heating service required.

AUXILIARY FUNCTIONS

In some cases it is possible to enable the following automatic functions:

- frost protection;
- lockout prevention;
- legionella prevention;
- periodic mechanical cleaning.

	Ambient heating request (air)
	Heating request (water)
	Quick DHW request
	DHW tank request
	Boiler circulator running
	Boiler circulator recycling
	Frost protection
	Legionella prevention
	Lockout prevention

Table 5: request and status icons

DESCRIPTION OF THE CONNECTIONS

The numerous resources available on the load control board type 1034 and the versatility of the ambient unit enable to have a high flexibility. The customization of this kit enables to meet the requirements of a wide range of

pellet stoves, boiler stoves and heating plants.

Figure 17 shows an example of a typical wiring diagram. Table 10 lists the types of functions carried out by the inputs and outputs of the board type 1034.

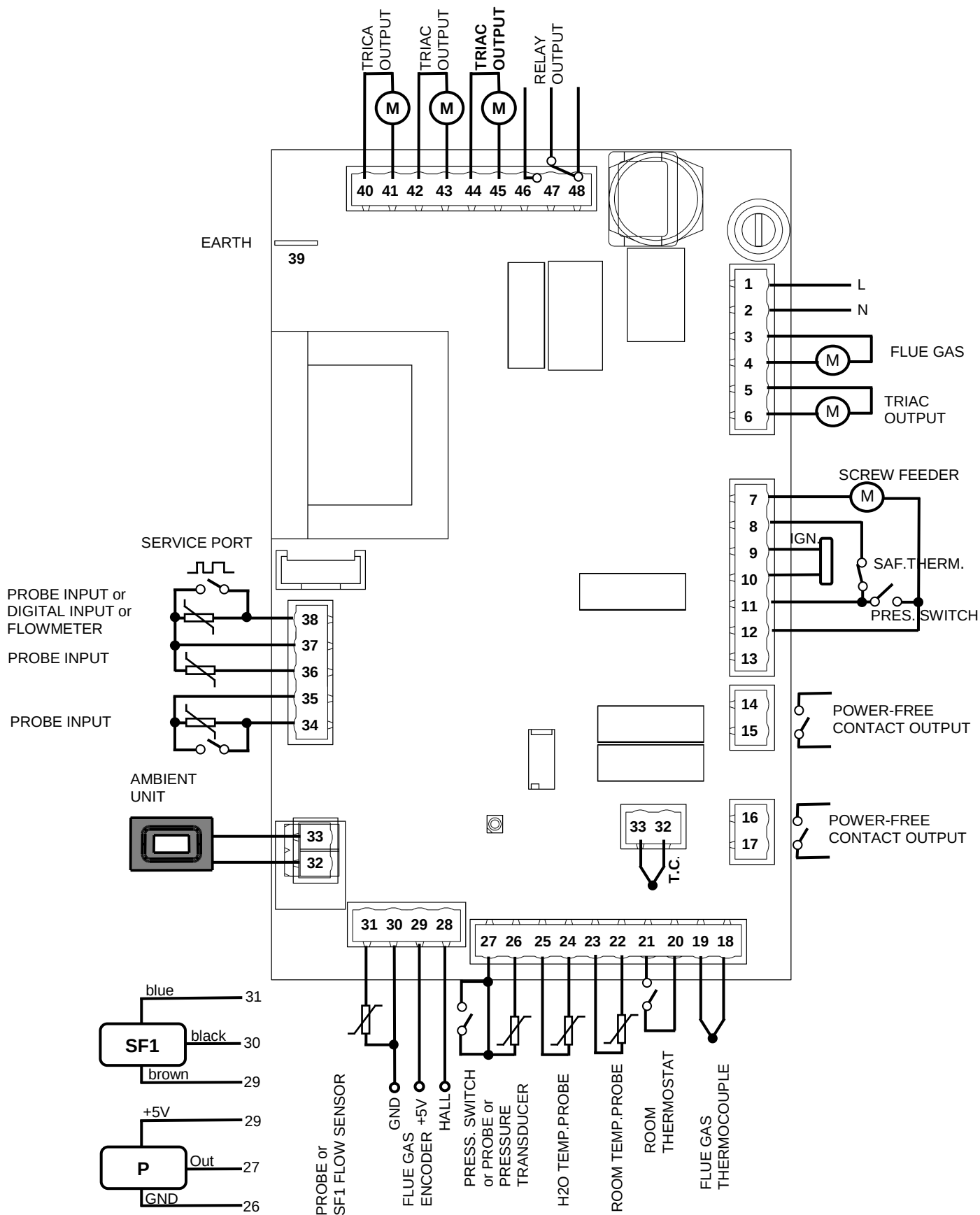


Figure 17: Wiring diagram (example)

Pin no.	Type	Typical function	Notes
1,2	230V 50Hz power supply input	Boards and outputs power supply	3.15A fuse protection
3,4	TRIAC output	Flue gas extractor	Filtered
5,6	TRIAC output	Air exchanger	Filtered
7,12	TRIAC output	Pellet screw feeder	Filtered
8,11	230V input	Safety thermostat status detection	AL2 silk-screen
9,10	TRIAC output	Igniter output	2A, $\cos\phi = 1$, unfiltered
11,12	230V input	Negative pressure switch thermostat status detection	AL1 silk-screen
13	Fuse-protected 230V power supply	Diverter valve power supply	
14,15	Power-free contact output	Mechanical cleaner	SPST relay contacts 1A 250V $\cos\phi \geq 0.5$
16,17	Power-free contact output		SPST relay contacts 1A 250V $\cos\phi \geq 0.5$
18,19	Thermocouple input	Flue gas thermocouple input	type J or K measures from 0 to 350°C
20,21	Remote power-free contact input	Heating request thermostat	
22,23	Analog input	Room temperature on the stove	Brahma probe type ST07
24,25	Analog input	Water temperature inside the stove	
26,27	Power-free contact or analog input	Water pressure switch, pressure transducer or temperature probe	
28,29,30	Flue gas encoder	Flue gas extractor speed feedback	Open collector Hall sensor, 1 impulse/revolution
30,31	Analog input	Temperature measure or SF1 flow sensor	
32,33	Thermocouple input	Auxiliary thermocouple input	type J or K, measures from 0 to 350°C
U.A.	Ambient unit	Communication with ambient unit	2-pole pull-out terminal block or RJ11 "phone"-type plug
34,35	Analog input	DHW temperature	
36,37	Temperature probe	Remote room temperature measure	
37,38	Digital or analog input	Temperature probe or DHW flowmeter	
39	Earth connections	6,3 x 0,8 fast-on pin for the board earth connection	We recommend wiring all earth connections in one point only
40,41	TRIAC output	Ducted room exchanger	Filtered output
42,43	TRIAC output	Alternative fuel screw feeder	Filtered output
44,45	TRIAC output	Circulating pump	Filtered output
46 47 48	N.C. contact N.O. contact COM. contact	Control of a diverter valve	SPDT relay power-free contacts 1A 250V $\cos\phi \geq 0.5$

Table 10: description of the terminal blocks of the board type 1034

The SF1 air flow sensor and the P pressure transducer illustrated in the diagram of Figure 17 are optional. Each triac output can tolerate a 0,8A max. current; in any case the total value of all triac outputs should not exceed 2,0A. All declared max. values refer to operation conditions with 250Vac and 60°C room temperature.



NOTES FOR THE DISPOSAL OPERATION

The controller contains electronic components and it must not be disposed of as a domestic waste. For the disposal operation refer to the local rules concerning special waste.

DIMENSIONS AND FIXING

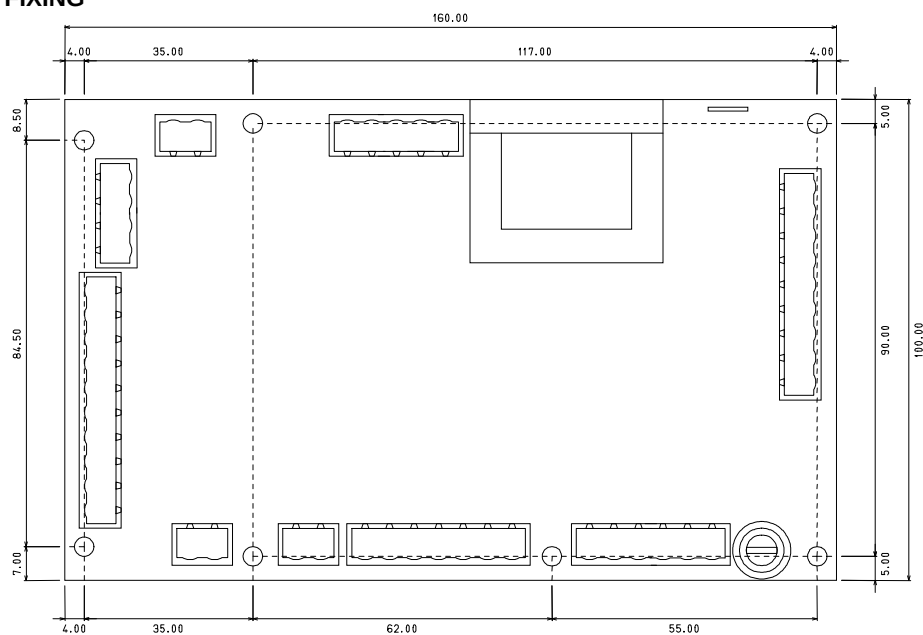


Figure 18: mechanical dimensions and fixing holes of the board type 1034

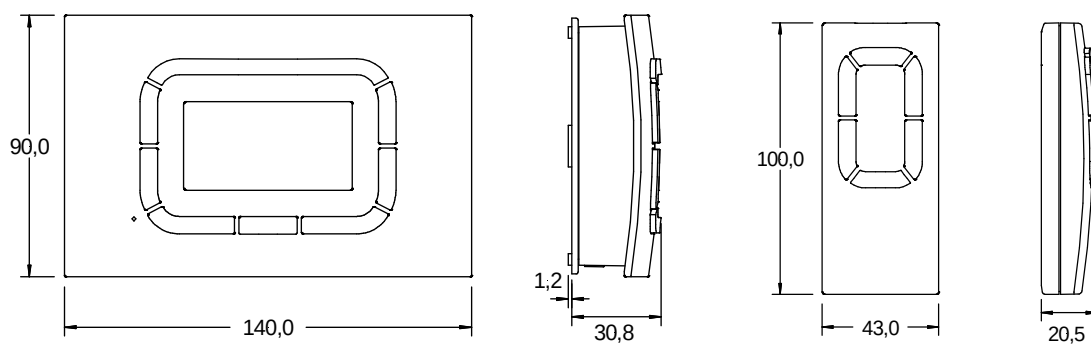


Figure 19: mechanical dimensions of the Pellet Kronos ambient unit and the remote control unit

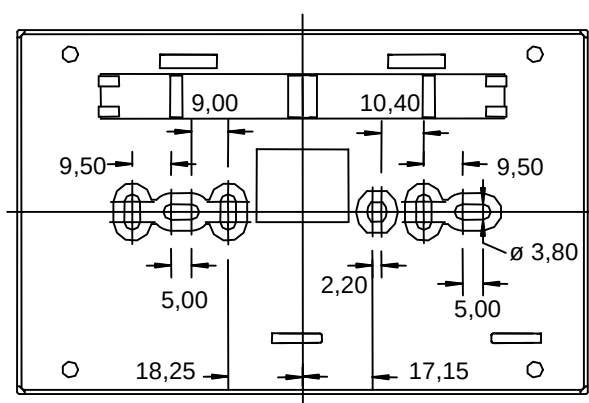


Figure 20: fixing holes of Pellet Kronos

ATTENTION -> Brahma S.p.A. accepts no responsibility for any damage resulting from customer's tampering with the product.

BRAHMA S.p.A.
Via del Pontiere, 31/32
37045 Legnago (VR) – ITALY
Tel. +39 0442 635211 – Fax +39 0442 25683
<http://www.brahma.it>
E-mail: brahma@brahma.it

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