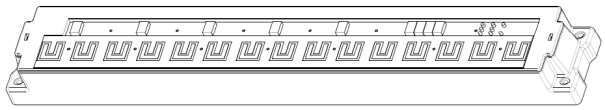
MANAGEMENT DEVICE FOR ELECTRONIC 1 TO 5 BURNER GAS HOB



DESCRIPTION

The PCxF device allows to manage a gas hob composed of 1-2-3-4-5 burners (x: number of burners customizable upon request).
This device is fitted to the Brahma VPC01 valves, which allow the flow rate regulation of every single natural gas or LPG fired burner.
Besides, the device is composed of a user interface with a 7 segment display and a touch keyboard.

GENERAL FEATURES

The device is normally customizable and its basic features are as follows:

- Red 7 segment display and led to visualize the flow rate level of every single burner and to visualize hour and settings;
- Touch keyboard with 15 touch-sensitive zones for the selection of every single burner level, settings, keyboard block and turn-on/off functions;
- Five 24Vdc outputs for Brahma VPC01 modulating valves;
- 24Vdc output for the main Brahma VPC01 valve located upstream of the gas collector.
- RS232 interface used for the system diagnostic
- Five faston inputs for the flame detection electrodes of the five burners..
- Output for a 220-240Vac igniter driving
- Management of the modulation levels preset on a FLASH memory
- Possibility to manage two modulation tables (G20 and G30)
- Integrated procedure in the device for the regulation of every single burner minimum level
- Power supply board made by using switching technology
- 24h format daily clock

TECHNICAL DATA

Operating voltage: 220-240V a.c. ±10%
Frequency: 50-60Hz
Power consumption: 30VA
Output contacts of the ignition transformer:
220-240V a.c. ±10% – 250mA – cosφ = 0,4
Flame detection electrode connection:
Faston 2,8x0,8 mm
or optionally: Faston 4,8x0,8 mm
Operating temperature range: -10℃ ÷ +85℃
Protection degree: IP 00
EN298 classification code:

Character	Meaning	Code
1°	Atmospheric	A
2°	Direct ignition of the main burner	M
3°	Non -volatile lockout	L
	Volatile lockout	V
	Recycle	C
4°	Non-volatile lockout	L
	Volatile lockout	V
5°	Fixed times	X
6°	Non permanent operation	N

Times:
- waiting time **(TW)**: 1 ... 60s
- safety time **(TS)**: 1 ... 60s
- flame failure response time: 1 ... 10s
  (according to EN 30-1-4)
- inter-waiting or inter-purge time: 1… 60s
- waiting time for lockout due to flame simulation : 0 … 60s
- pre-ignition time 0 … 60s
- ignition attempts number: 1 … 10

Max. cable length for external components : ≤1m

Flame control:
The flame detection device makes use of the flame rectification property
- Minimum ionisation current: 0,2µA_{DC}
- Maximum ionisation current:
  (Supply voltage 264V_{RMS}) 4,5µA_{DC}
- Recommended ionisation current:
  3÷5 times the minimum one
- Cable maximum length: 1 m
- Minimum isolation resistance of electrode and detection cable to earth: ≥ 50MΩ
- Max electrode stray capacitance: ≤1nF
- Max short circuit current: < 200µA_{AC}

Dimensions: 466x67,5x44,5mm
Weight : around 640g
Housing material: Black TPA6 V0

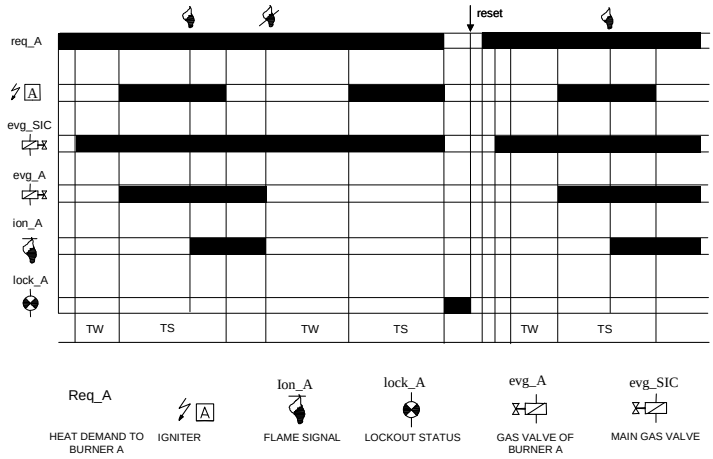
FUNCTIONS:
The main functions of the device are as follows:
- Standby mode
- Keyboard lock to prevent unwanted ignitions/settings
- 9 level flow rate adjustment of every burner
- safety lockout with manual reset by using the keyboard
- A procedure to adjust the flow rate minimum level of every burner
- settings of the employed fuel type: natural gas/LPG
- settings of every burner turn-off time.
- The maximum operation period of every burner is 4 hours and it is preset on a FLASH memory.
- Temperature detection by a sensor located on the electronic board
- Anomaly/failure management through a coding visualized on the display

INSTALLATION INSTRUCTIONS
- The device is designed to stay in the running position for less than 24h (system for non-permanent operation). Reaching this limit causes a regulation shutdown in order to allow the device to check its efficiency.
- This device is a safety appliance that must not be modified. The manufacturer's guarantee and responsibility will be debarred if the device is tampered with by the user.
- Observe the applicable national and European standards related to electrical safety (ex. EN 60335-1/EN 50165).
- **Phase and neutral** polarity must be respected, otherwise dangerous conditions can be caused.
- Before starting the system, check the cables carefully: wrong wiring can damage the device and compromise the plant safety.
- Connect and disconnect the PCxF device without power supply.
- Avoid exposing the device to dripping water .
- Avoid putting the valve cables together with the high voltage cables of the ignition transformer.
- Make sure that nothing is placed on the hob, especially on the control panel area before ignition.
- After turning the PCxF on, wait a few seconds till the procedure of the keyboard automatic calibration is completed.
- In case of a “partial” short-circuit or insufficient isolation between live and earth, the voltage of the detection electrode can be reduced till causing the device lockout due to the impossibility of detecting the flame signal.
- The extra low voltage circuit (ELV) is not safe to touch (only main isolation according to EN60730-1), therefore the installation must ensure a protection degree against electric shock equivalent to the double isolation of the user interface.

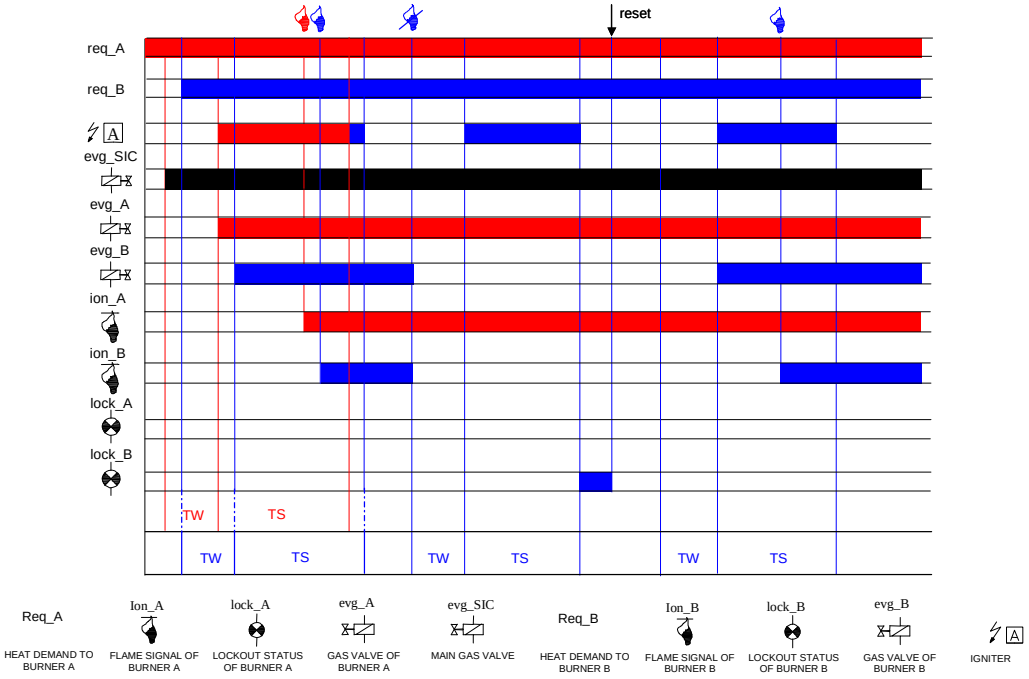
DIRECTIONS FOR A CORRECT OPERATION OF THE INTEGRATED FLAME DETECTION CIRCUIT:
In case of a power network with unearthed neutral, for a correct flame detection the PCxF device needs to be fitted to a pre-wired unit called RC1 connected between the earth and the neutral terminal of the mains supply.
In case of a live-live power network, the voltage between the flame detection electrode and the earth may not be high enough to ensure the correct operation of the device, therefore we recommend using our "Isolation transformer type AR1 for PCxF”.
Optionally, in case of a 230V live-live power network (live-neutral voltage 130V approx.), it is possible to use our PCxF device in biased version.
For further information about our devices type RC1 and AR1, please see our data sheet no. 11776.

NOTES CONCERNING DISPOSAL OPERATIONS
The device contains electronic components and must not be disposed of as a domestic waste. For the disposal operation refer to the local rules concerning special waste.

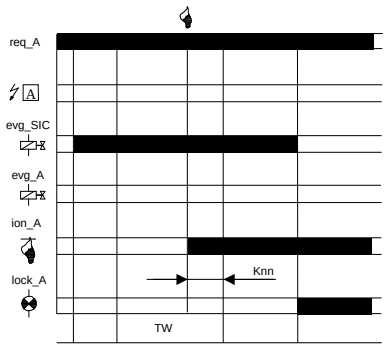
CYCLE DIAGRAM (STANDARD CASE. ONE BURNER IS ACTIVATED: EX. BURNER A)



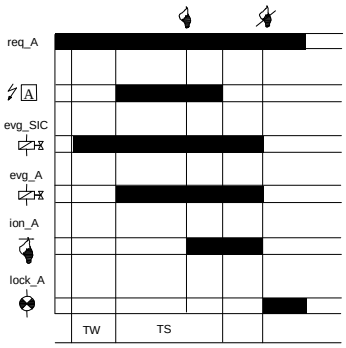
CYCLE DIAGRAM (STANDARD CASE. TWO BURNERS ARE ACTIVATED: EX. BURNERS A B)



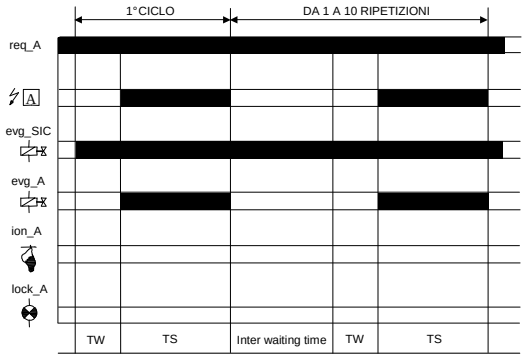
CYCLE DIAGRAM FOR OPTIONS Knn – V – Inn – Ynn – E



OPTION Knn
(Lockout due to flame simulation)



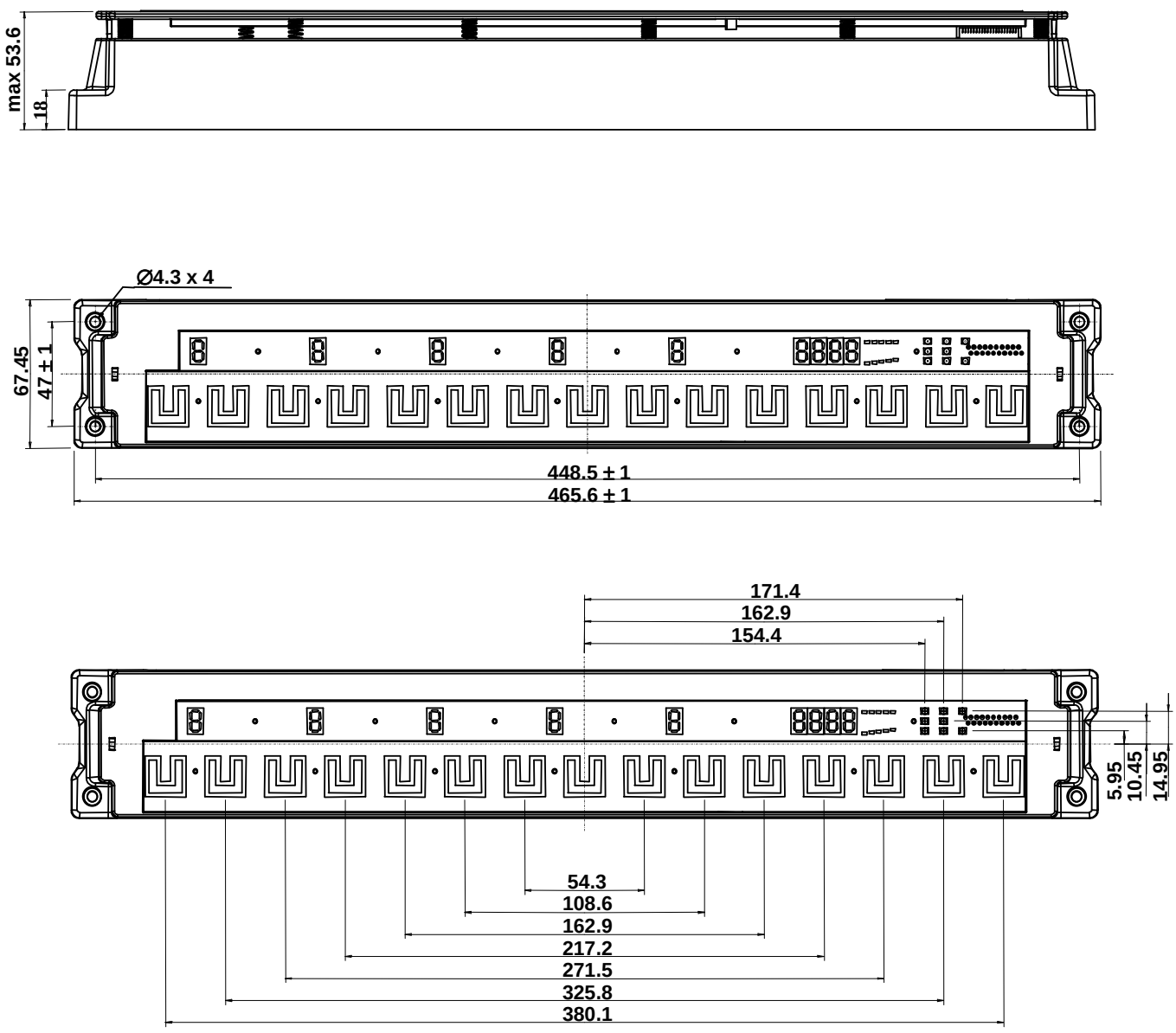
OPTION V
(lockout due to flame failure)



OPTION Inn -Ynn
(Inter-waiting time and recycle)

Option E = volatile lockout (electrical reset)

OVERALL DIMENSIONS



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

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

2010/04/22 Subject to amendments without notice