



PAKOLE

USER'S MANUAL

FOR INDUSTRIAL USE ONLY

**3-POINT REGULATION THERMOSTAT WITH EXTERNAL
TEMPERATURE SENSOR FOR GTV FORCED AIR HEATERS**



**Regulator type:
AHP-3**

AHP3_008_028_011_210505_V003_EN

www.pakole.com

EN

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1. SAFETY INFORMATION



ATTENTION! Read and understand this user's manual before assembling, starting, or servicing the device. The improper connection or usage can cause serious damages! Keep this manual in a safe place in order to obtain information in case of incidental problems.



ATTENTION! If the electric cable is damaged, it must be changed by a qualified service person.



ATTENTION! These regulators have been developed for devices manufactured and distributed by PAKOLE Trade Ltd., therefore they cannot be installed in other devices due to their different technical properties.

2. GENERAL INFORMATION

The AHP-3 type temperature regulator is suitable for controlling a GTV type forced convection air heater or controlling a system constructed from these devices for heating of rooms.



3. DELIVERY, UNPACKING, HANDLING

The regulator is delivered in corrugated cardboard box.

The process of unpacking the device:

- Remove the corrugated paper box and the cover foil from the device.
- Check that the delivered package contains all the accessories.
 - 1 pc Temperature regulator
 - 3 pcs PG 11 sealing bush
 - 1 pc Temperature sensor
 - 1 pc User's manual
- Check the device for transport damage.
- If you notice that the regulator is damaged, inform our retailer immediately from whom you purchased the device!

4. OPERATION PRINCIPLE

The regulator operates in two heating modes: Day (comfort) or Night (tempering). The day and night mode can be changed by a programmable clock relay, which is built into the regulator. The thermostat may be operated on 20 programs and it can be programmed by groups.

The regulator can be used to operate two-stage heaters. The stages are indicated by LEDs on the front panel. Green LED means the running, first red LED means 50% stage, last LED means 100% stage. The regulator starts the heater in 100% operation below the set temperature by 1 ° C. When the temperature reaches the settings (desired temp.-3°C) the device switches to 50% power and it raise the temperature to the settings and keeps it there. If the needed temperature is reached, the regulator stop the appliance(s).



ATTENTION! Switching the regulator's switch to the „0” position does not free from voltage either the temperature regulator or the GTV type heater/ system of heaters! The regulator can be de-energized by disconnecting the connector on the device.

On the front panel there is a two-way switch, which means in the upper position „1” as operation mode and in the lower position 0” as system turn off. On the left side of the front panel there is a two-way mode selector switch. In its upper position it is in „Heating” (Winter mode), in the lower position, „Ventilation” (Summer) mode.

The desired room temperature can be set with the rotary knobs („day / night”) on the regulator. The regulator switches the air heater or heaters on and off based on the air temperature.

- Below the set temperature in heating mode, the temperature regulator starts the air heater or a system of heaters and then switches off as soon as the air temperature reaches the set temperature.
- In Ventilation Mode, below the set temperature, the regulator stops the ventilation and then restarts if the temperature rises.

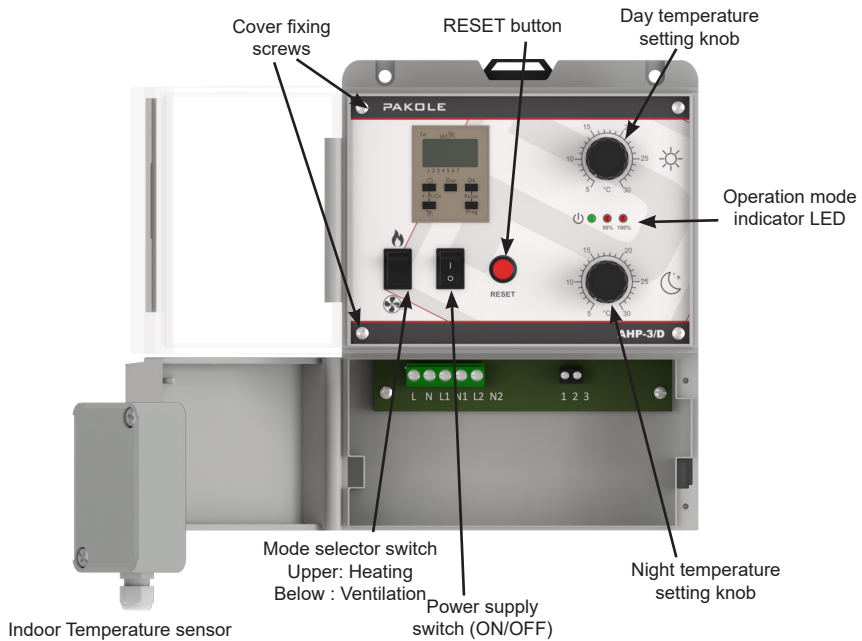
There is also placed a red „RESET” button on the front panel of the AHP-3 temperature regulator. If the GTV-type heater or the system of heaters are locked for some reason (ignition failure, gas shortage, etc.) the button is lighting. By pushing, it release the interlock.



Attention! The set temperature is for information only. There may be a difference between the set and the measured temperature.

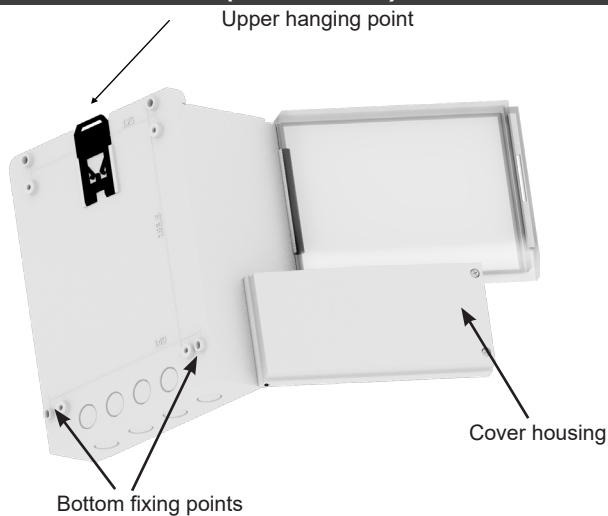
5. APPLIANCE PLACEMENT

TEMPERATURE REGULATOR (FRONT VIEW)



1/a. fig: Front view of the temperature regulator

TEMPERATURE REGULATOR (REAR VIEW)



1/b. fig: Rear view of the temperature regulator

APPLIANCE PLACEMENT

After unpacking the temperature regulator, the boreholes for mounting the device are accessible when opening or removing the cover on the bottom of the controller.



2. fig: Fixing points of the temperature regulator

In the room, the temperature regulator has to be placed at a height of 1.5 meter so it is protected from any radiation or other heat source.

In case of using radiant heaters the outdoor temperature sensor has to be placed at a height of 1.8-2 meter.



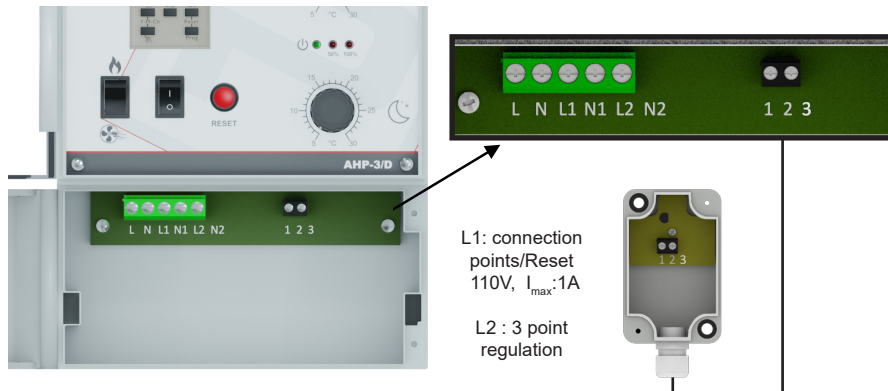
All installation, connection and removal of the box lid must only be carried out when it is devoid of voltage!

6. ELECTRICAL CONNECTION



ATTENTION! Improper connection of the control unit can lead to permanent damage!

Under the lid there is a screw terminal for connecting the regulator. The high voltage connectors has to be connected with an MT 3x0.75 ... 1.5, 400V operating voltage cable. The regulator has reinforced insulation, therefore it does not contain a protective earth connector, the regulator cannot be connected to a protective earth!



3. fig: Connection points of the temperature regulator (terminal strip)

When connecting the power supply connection points (L, N) of the regulator, make sure that the neutral wire is connected to the connection point „N” and that the phase wire is connected to the connection point „L” according to Fig. 4!

From the connection point L1 of the temperature regulator, gives an operating start control signal to the GTV type air heater or the system made of this heaters (50% operation), the connection of L2 gives a signal to 100% operation according to the operating mode set on the regulator.

The indoor temperature sensor must be connected to points 1, 2 and 3 according to the numbering.

The two-pole isolating switch for the power supply in front of the control unit must be selected so that it can be locked in the „0” position.

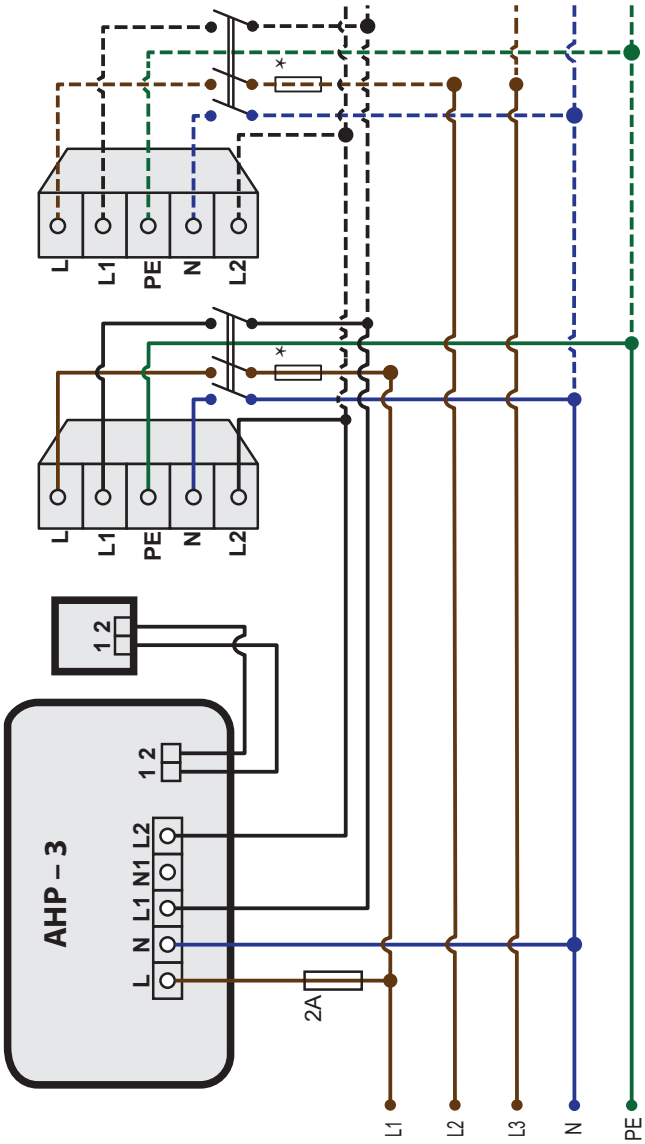
Only with this connection can be ensured that the GTV-type device works properly.



ATTENTION! Switching the regulator's switch to the „0” position does not free from voltage either the temperature regulator or the heater! The regulator can be de-energized by disconnecting the connector on the device.



The regulator must be connected to the main electrical system with a two-pole isolating switch!



* Fuse values

20-48 kW-ig	5 A
48-87 kW-ig	13 A
87-107 kW-ig	16 A

4. fig: Wiring of the temperature regulator to the electrical

7. MAINTENANCE

The temperature regulator does not require maintenance when the set is used functionally. In case of any failure the repairing can be fulfilled only by specialist or professional service!

NOTIFICATION OF TECHNICAL FAILURE:

PAKOLE Trade Ltd.
H-8000 - Székesfehérvár
Börgöndi út 8-10.
Tel.: 22/316-484
e-mail: szerviz@pakole.hu

8. TECHNICAL PARAMETERS

TECHNICAL DATA

Power supply:	230V / 50 Hz, $P_{\max}$: 1VA
Output:	Mode connected by L1 relay contact: 110V 1A L2: 230V / 50Hz, $I_{\max}$: 10A
Control interval:	nature of value-based regulation
Setting value:	2 x +5...+30°C
Protection:	IP 54
Other data:	
House:	plastic
Connection:	through a gland to the screwed connecting strap
Insulation:	II. class
Enclosure size:	220x180x135 mm
Sensor:	NTC controller in separate housing
Sensor enclosure size:	40x30x85 mm

9. TIMER PROGRAMMING

TIME SWITCH: PERRY ION007_1081

1. KEY TO DISPLAY AND BUTTON FUNCTIONS

Date setting indications
Program number from P1 to P20

Action indication in seconds

Setting and display:

- year, month, day of the month
- daylight saving/standard time adjustment
- current time
- program ON and OFF time

Channel manual setting indication

Channel status during operating mode:

1 = activated 0 = deactivated

In ch5 setting (semiautomatic daylight saving/standard time adjustment)

1 = month and day of + 1 h adjustment

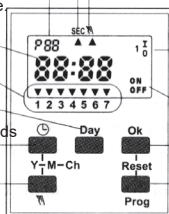
0 = month and day of -1h adjustment

Days of the week

Day button

Button: hour-minutes-seconds

Manual button



Program ON/OFF indication

Ok button (to confirm setting)

Prog button

Press buttons **Y** and **M** simultaneously to insert: year, month, daylight saving/standard time adjustment program.
(combination buttons **Y-M-Ch**)

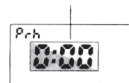
Press buttons **Ok** and **Prog** together to **reset**

Note: the following meanings are adopted in the instructions:

Characters permanently alight



Characters blinking



2. PUTTING INTO OPERATION

a) Powering up (switching on) for the first time

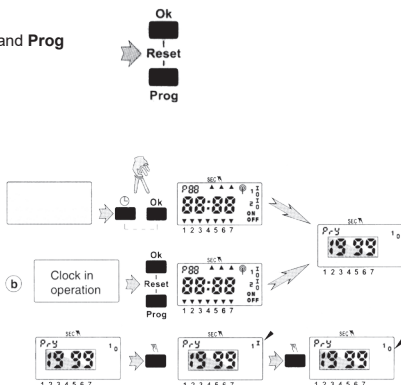
When the clock is powered up for the first time, the display will appear blank; activate by pressing buttons **Y** and **Ok** simultaneously. The appliance will run a self-test routine, following which the date can be entered.

b) Powering up subsequent to first use.

The clock will come into operation with the display activated.

To set the clock again, press **Ok** and **Prog** simultaneously (general reset).

The appliance will run a self-test routine following which the date can be entered.



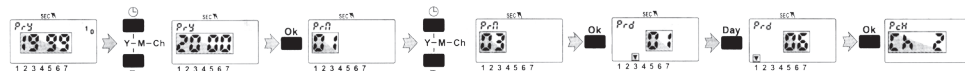
2.1 – Manual relay override

To test connections and interlocked devices before entering data, the status of the switching relay can be selected manually by pressing the **Y** button momentarily. The first entry of data thereafter will return the relay to normal status automatically.

2.2 – Current date setting (year, month, day)

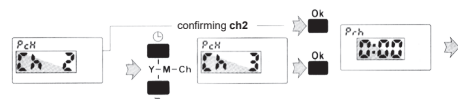
Press **Y** and **Y-M-Ch** simultaneously to set the year and press **Ok** to confirm. Press **Y** and **Y-M-Ch** simultaneously to enter the month and press **Ok** to confirm. Press **Day** to set the day and **Ok** to confirm (example: 06 March 2000).

Warning: pressing a button momentarily, the corresponding value increases by units; pressing and holding the button, the value is scrolled.



2.3 Selection of daylight saving/standard time adjustment program

The product is factory set on the **ch2** automatic adjustment program. To confirm program **ch2** press **Ok**. To select a different program press **Y** and **Y-M-Ch** simultaneously, then press **Ok** to confirm.

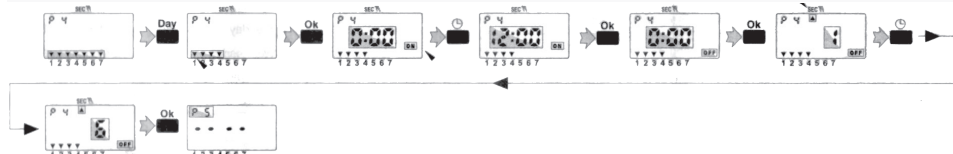
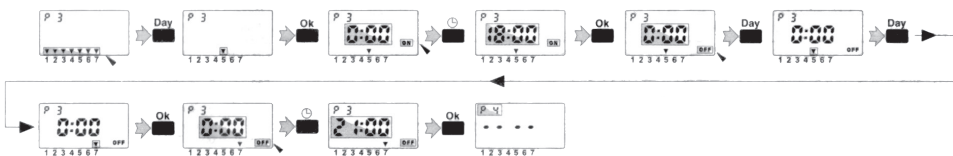


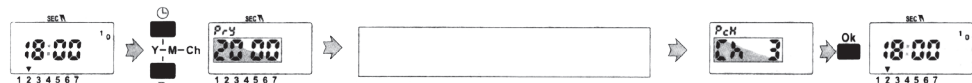
Important: if program **ch5** is selected and confirmed, perform the setting operations indicated in chapter 10 without delay.

Display indication	Summer adjustment + 1 hour (daylight saving)	Winter adjustment - 1 hour (standard)
ch0	None	None
ch1	Last Sunday of March	Last Sunday of September
ch2	Last Sunday of March	Last Sunday of October
ch3	Last Sunday of March	Fourth Sunday of October
ch4	Second Sunday of March	First Sunday of November
ch5	Free setting	Free setting
ch1= Europe ch2= Europe ch3= Great Britain ch4= North America		



GROUP OF DAYS TABLE	
 = All  = Monday (1)  = Tuesday (2)  = Wednesday (3)  = Thursday (4)  = Friday (5)	 = Saturday (6)  = Sunday (7)  = Monday to Thursday  = Monday to Friday  = Monday to Saturday  = Saturday and Sunday





9. CHANGE CURRENT TIME

With the appliance in "operating status" press the $\odot$ button: the current time will blink in the display; change it pressing the button (momentarily for minutes, pressing and holding for hours). Press **Ok** to confirm the new time and return to "operating status".

10. SEMIAUTOMATIC STANDARD/DAYLIGHT SAVING TIME ADJUSTMENT PROGRAM

The daylight saving/standard time program ch5, requires setting of the date for the change from standard to daylight saving time (+ 1 hour) and from daylight saving to standard time (- 1 hour) Example: start daylight saving time= Sunday March 26. - start standard time = Sunday October 8. (ref. year 2000).

When program **ch5** is confirmed, "1" prompts on the display requiring the entry of the month for the change from standard to daylight saving time.

- Press $\odot$ and **(Y-M-Ch)** simultaneously to enter the month and press **Ok** to confirm.

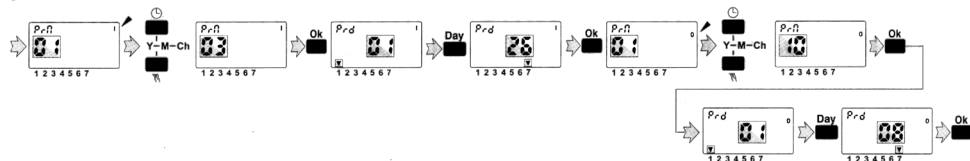
- Press **Day** to enter the day, and **Ok** to confirm.

"0" now prompts on the display requiring the entry of the month for the change from daylight saving back to standard time.

- Press $\odot$ and **(Y-M-Ch)** at the same time to enter the month and confirm by pressing **Ok**.

- Press **Day** to enter the day and **Ok** to confirm.

Continue with hour and minutes as indicated In section 2.4

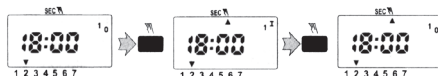


11. MANUAL RELAY OVERRIDE

11.1 - Temporary manual override

With the appliance in "operating status", pressing $\odot$ (momentarily) to access "temporary manual override status" will change the channel status according to the program; if the channel was activated (ON) it becomes deactivated (OFF) and viceversa. This condition is indicated in the display by $\blacktriangle$ below symbol $\odot$, while the channel status is indicated by 1 or 0. Pressing $\odot$ a second time, temporary channel forcing will be cleared and the appliance returns to "operating status"; the channel reverts to program status.

In any event, temporary channel override will be abandoned when the next switching operation (ON to OFF or OFF to ON) of the current program takes place.



11.2 - Permanent manual override

With the appliance in "operating status" or "temporary override status" pressing and holding $\odot$ for 5 seconds will activate "permanent manual override status". In this status, indicated by **PER**, execution of programs is suspended and the status of the channel selected by pressing $\odot$ is assumed permanently.

The channel status (indicated by 1 or 0 in the display) can be changed at any time by pressing $\odot$.

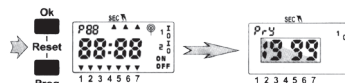
To cancel "permanent override status" and return to "operating status", press and hold the manual button for 5 seconds. The channel will revert to program status.



12. RESET

12.1 - General reset

Press **Ok** and **Prog** simultaneously (**Reset** command) to activate the general **Reset**. All data in memory: date (year, month, day), current time, daylight saving/standard time adjustment program and all channel operation programs (resident in the permanent memory) will be deleted. After running the "Test" (see figure), the appliance will be ready for reprogramming (see section 2).



12.2 - Low accumulator reset

If a power supply failure lasts longer than the reserve charge time, the appliance will reset partially when powered up, deleting the date (year, month, day) and the daylight saving/ standard time adjustment program; programs in the permanent memory are saved. Lost data must be reprogrammed as indicated in heading 2.

The manufacturer reserves the right to Introduce any modification without prior notice.

WARRANTY - AND SERVICES**Preserve this warranty card**

Type: _____

Serial no.: _____

Date of purchasing: _____

LIMITED GUARANTEE *

The manufacturer guarantee the costumer that the product and its parts are free from material and production fails. During normal use the warranty is 1 year. This warranty concerns the first retail customer.

The guarantee concerns the costs of laboratory investigations and the parts, which are needed for proper operation. The delivery and unforeseeable costs belong also to the mending costs and do not contain compensation costs.

Guarantee mending can only be realized by authorized retailer or service centre.

The guarantee does not concerns the following fails, which are caused by: improper using, damaging, neglect, accident, lack of maintenance, normal attrition, transformation, modification and operation influence factor, contaminated fuel, installation of non-suitable part and mending which is done by not authorized retailer or service station.

The regular maintenance is the owner's responsibility.

The manufacturer does not assume the responsibility in case of accidentally happened or directly caused mistake respectively improper using.

***We reserve the right to change of this specification without extra notification. The guarantee can be applied in accordance with above defined. Additional guarantee is not accepted.**

Guarantee servicing

If your appliance needs guarantee service in that case it can be requested at nearest authorized service station giving in the appliance for repairs. This service is included with the purchase agreement.

Mending services

Take the appliance to the nearest authorized service station. If the device is not under guarantee the service cost will be invoiced to the costumer at defined price. The service centres are independent from one another and may have different owners. We reserve the right to change of this specification without extra notification. If you would like to contact us the type and serial number of device always be at hand.

In case of other needed information write to the following address:

PAKOLE TRADE Ltd.

H-8000 Székesfehérvár, Börgöndi út 8-10.

Tel.: +36 22 316 484 szerviz@pakole.hu



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