ACTIVE

RAJTEK DT-10 / DT-20

Programmable Ambient Temperature Regulator

Revision 2009

Programmable ambient regulator with ten memory registers plus weekend register, RTC scheduling, 2-year lithium backup. 10 A or 20 A relay.

Manufactured in-house at our SMT line.
DDM Novastar SPR-45 + LS60 + GF-120HT, AOI on every joint, per-unit calibration to NVRAM.

Energetika-VDS · Strumica, Macedonia · energetika-vds.com

Catalog detail on the following pages.

programmable
temperature regulators
RAJTEK

Are used for controling and regulating the temperature of rooms,temperature chambers,refrigeratos,industry proceses and in all areas where programmed temperature regulation is needed.

DT-10

Nominal voltage 220V AC
Freqency 50Hz
Wide temperature measurement range (-10°C +40°C)
Ten programmable temperatures
Accuracy ± 1sec./day
Backup supply 3,6V 2 year
High Temperature convertor accuracy:±0,5°C Max,at 25°C
Relay lapping power 10A

DT-20

Nominal voltage 220V AC
Freqency 50Hz
Wide temperature measurement range (-10°C +40°C)
Ten programmable temperatures
Accuracy ±1sec./day
Backup supply 3,6V 2year
High Temperature convertor accuracy: ±0,5°C Max,at 25°C
Relay lapping power 20A

ST-10

Nominal voltage 220V AC
Freqency 50Hz
Wide temperature measurement range (-40°C +125°C)
with outside sensor
Ten programmable temperatures
Accuracy ±1sec./day
Backup supply 3,6V 2year
High Temperature convertor accuracy: ±0,5°C Max,at 25°C
Relay lapping power 10A

ST-20

Nominal voltage 220V AC
Freqency 50Hz
Wide temperature measurement range (-40°C +125°C)
with outside sensor
Ten programmable temperatures
Accuracy ±1sec./day
Backup supply 3,6V 2year
High Temperature convertor accuracy: ±0,5°C Max,at 25°C
Relay lapping power 20A

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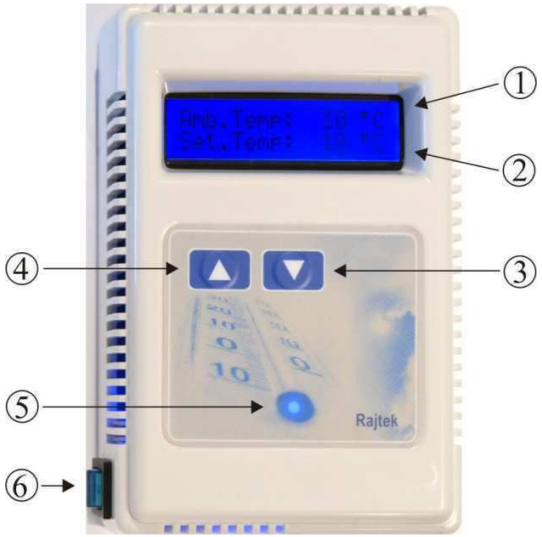
KT-10, KT-20, VT-10 AND VT-20 MODEL DESCRIPTIONS



1 – Shows the current ambient temperature or the current transducer temperature for the VT-10 and VT-20 models

2 – Shows the pre-set temperature. Depending on the model the pre-set temperature can be in the following ranges
(-10°C ~ +40°C) for KT-10 and KT-20 models
(-40°C ~ +125°C) for VT-10 and VT-20 models

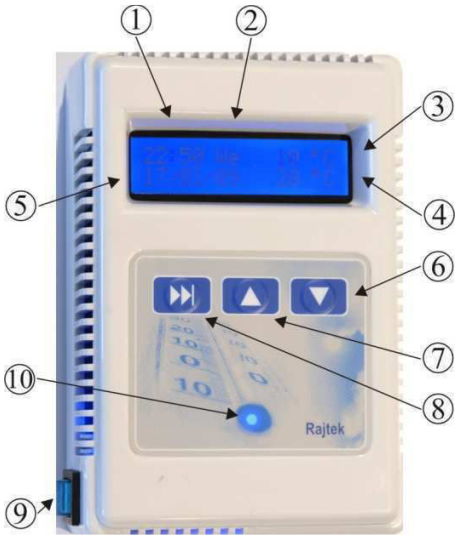
3 – Pressing the key will decrease the pre-set temperature

4 – Pressing the key will increase the pre-set temperature

5 – Relay indication signal led diode
- The led diode is on when the relay is activated
- The led diode is off when the relay is deactivated

6 – ON/OFF switch

DT-10, DT-20, ST-10 AND ST-20 MODEL DESCRIPTIONS



1 – Shows the current time - hour : minute

2 – Shows the current day

3 – Shows the current ambient temperature or the current transducer temperature for the ST-10 and ST-20 models

4 - Shows the pre-set temperature. Depending on the model the pre-set temperature can be in the following ranges
(-10°C ~ +40°C) for DT-10 and DT-20 models
(-40°C ~ +125°C) for ST-10 and ST-20 models

5 – Shows the current date/month/year

6 – Pressing the key will decrease the pre-set temperature

7 – Pressing the key will increase the pre-set temperature

8 – The key has different functions which will be described latter

9 – ON/OFF switch

10 – Relay indication signal led diode

- The led diode is on when the relay is activated
- The led diode is off when the relay is deactivated

Setting the current time for the models DT-10, DT-20, ST-10, ST-20

Pressing the key ⏭ the display shows the following content:

The hour indication blinks and using the keys and the correct hour can be set.
In case there is no user activity within 30 seconds the unit goes back to its initial state and exits setting mode
By pressing the key ⏭ again, the display shows the following content:

The minutes indication blinks and using the keys ▲ and ▼ the correct minutes can be set.
In case there is no user activity within 30 seconds the unit goes back to its initial state and exits setting mode
When the ⏭ key is pressed for the third time, the following contents are displayed:

Now, the current day can be changed. The procedure for changing the current day is the same as previously described.
Repeatedly pressing the same key will scroll through then following screens:

In each of these stages, the current date, month or year can be changed. The procedure is the same as described before.

Memory programming

The models DT-10, DT-20, ST-10 and ST-20 have implemented ten available memory registers and one additional for the weekends. These can be programmed in the following way.
Press and hold the ⏭ key until the following content is displayed (for approximately 5 seconds):

Now the unit is in a memory programming mode and it is expected from the user to make a choice which memory register should be set.
Pressing the ▲ key makes a selection for programming the ten memory registers.
Pressing the ▼ key makes a selection for programming the weekend memory register.
In case there is no user activity within 30 seconds the unit goes back to its initial state and exits setting mode.

If ‘Program Memory’ was selected the displays shows the following content:

The label ‘M-‘ followed by a number from 1 to 10 shows the current memory location.
The user is now expected to adjust the hour by using the and keys, indicated the blinking of the hour indication.
Pressing the key, the minutes indication will start blinking showing that now the minutes can be set, in the same manner as the hour.
Pressing the same button again the temperature label on the display starts blinking, requiring the value of the temperature to be set. The temperature can be modified in the same manner as before.
Pressing again the once more the ‘Off’ label starts blinking. If now the key is pressed, the label will turn to ‘On’ indicating that the memory settings will be accepted and the it will be engaged. In case the memory register should be deactivated, the key should be pressed.
While in memory programming mode, pressing the key will switch to programming the next memory register, indicated by the label ‘M- ‘ and the number of the active memory register. Changing memory location contents is done in the same way as described above.
In case the last memory register has been reached, after its programming the unit will automatically go to its initial state and exit the programming mode. This will also happen if there is no user activity for 30 seconds.

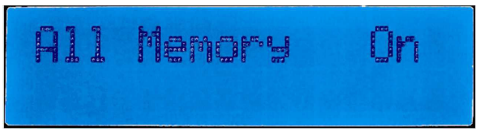
Weekend memory register programming

When in programming mode, and display shows the following content

pressing the key makes the unit enter in weekend programming mode. The following is displayed:

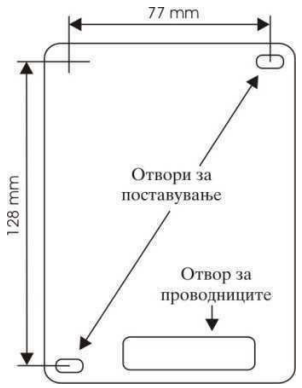
Setting this memory register is conducted in the same way as the rest of the memory registers.

When in programming mode, if the key is pressed, the following will be displayed:

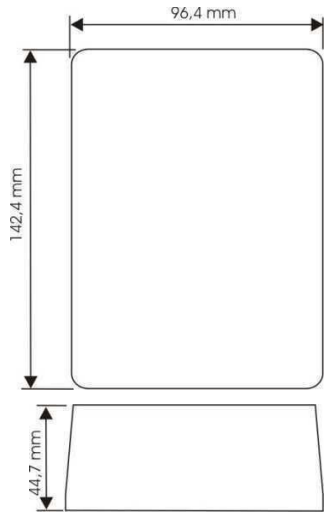


and the label ‘On’ starts blinking. This means that all the memory registers will be activated. Pressing the key will switch this label to ‘Off’ indicating deactivation of all memory registers.
Pressing the key will take the unit to its initial state. The same will happen if there is no user activity for 30 seconds.

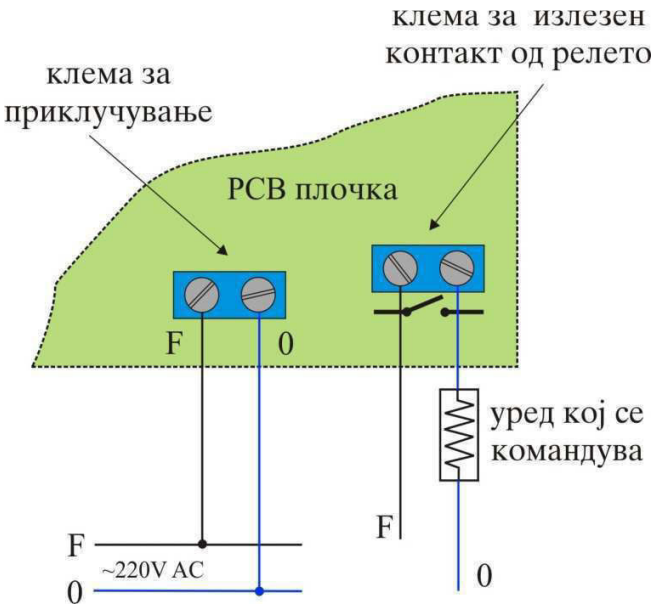
Connecting dimensions
(for all models)



External dimensions
(for all models)



Electrical connecting scheme
(for all models)



Technical data

Product: Temperature regulator

Model:
KT-10, KT-20, VT-10, VT-20, DT-10, DT-20, ST-10, ST-20
Source voltage: 220V AC, 50Hz

Maximum relay outlet power:
Model: KT-10, VT-10, DT-10, ST-10
Reley: 10A, 220V AC, 50Hz
Model: KT-20, VT-20, DT-20, ST-20
Reley: 20A, 220V AC, 50Hz