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RT-825

TEMPERATURE REGULATOR programmable



519 0 8 3 1 2 1 5 9 2 6 2 4

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F&F products are covered by an 24 months warranty from date of purchase

PURPOSE

Regulator RT-825 is intend to control heating device supplied from voltage 230V and current load max to 16A.

FUNCTIONING

If ambient temperature is lower than ordered value by 1°C then heating device enclose. If temperature is higher than order value then heater is turn OFF.

WORK MODES

1. normal

In this mode regulator hold temperature with programming characteristics. Characteristic is setting independent for work ways(Monday-Friday), Sunday and Saturday. But ever day is appotion for four cycle (P1, P2, P3, P4) for which could be set duration time and temperature.

Deafult regulator settings for temperature characteristic:

	Monday - Friday		Saturday		Sunday	
	Hour	Temp.	Hour	Temp.	Hour	Temp
P1	6:45	16 °C	7:45	15 °C	8:45	15 °C
P2	8:15	18 °C	9:15	18 °C	10:15	18 °C
P3	11:30	20 °C	11:30	20 °C	12:30	20 °C
P4	18:15	16 °C	17:00	15 °C	18:00	15 °C

In work mode possible is quickly change temperature value in actual cycle, without programming system.

2. anti-freezing

This mode is use to protect room before over cool and fall temperature under ordered value (from range 0°C - 10°C). In this mode the same value is hold independent of day and hour.

3. safe

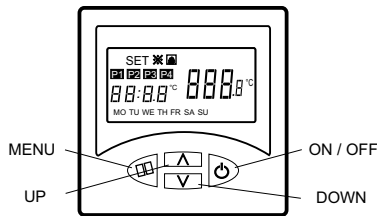
This mode enclose when sensor is break. In this case heater well be enclose for four minutes with 1 minute break. When heating elemnt is close it is signalize by blikniok of display illumination.

4. exclusion

Excusion of regulator cause stop all system functions, behind display actual time.

Measurement of temperature is make by sensor which is built in regulator and/or outside probe which is connect to utputs 7 and 8. In case when regulator works with two sensors then outside sensor is use as protection of excessive cross temperature.

OPERATION OF REGULATOR



MENU



Short pressing button MENU cause displayed temperature from outside sensor which is connect to regulator. Long pressing a button (by 5sec.) cause pass to programming mode.

UP



In standard work short pressing button "UP" cause increase ordered value (more information in next part of instruction). In programming mode this button is use for increase editing parameter value.

DOWN



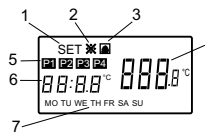
In standard work short pressing button "DOWN" cause fall ordered value (more information in next part of instruction). In programming mode this button is use for low editing parameter value.

ON / OFF



In standard work short pressing this button pass to special mode which prevent freezing room. Long pressing this button cause turn ON/OFF a regulator. In programming mode this button is use for enter value of editing parameter.

WORK STATUS



1. SET

Sign which means work regulator in programming mode.

2. ✱

Sign which means work regulator in anti-freezing mode.

3. ■

Sign which means enclose heating device when environment temperature is lower than ordered.

4. 88:88°

Actual value of temperature read from main sensor. When regulator work with two sensors then in this place is displayed reports from inside sensor.

5. 01 02 03 04

Show actual program cycle which is executing by regulator.

6. 88:88°

Actual date and time. If in normal work mode will push button "UP" or "DOWN" then in this place will displayed ordered temperature value.

7. MO TU WE TH FR SA SU

Show actual day of week.

At standard work of regulator (it is shown on under picture) display present actual hour, minute and day of week (1), actual temperature (2) and number of executing program cycle. If heating element is connect then on display arrive additional sign (4).



QUICK TEMPERATURE CHANGE

Possible is change ordered temperature for while without reprogramming of regulator. If need to do this need press button "UP" or "DOWN" that cause display in timer place actual value of ordered temperature (present on under picture) and next by button "UP" or "DOWN" set new value.

ATTENTION!

This change relate only actual cycle work. Next cycles will execute with settings which were earlier programmed.

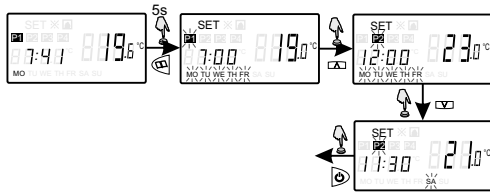


ACTIVATION ANTI-FREEZING MODE

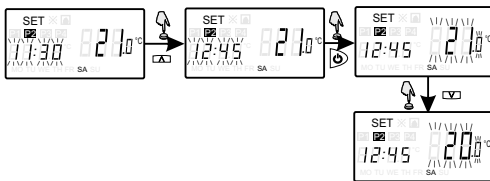
Pass to ant-freezing mode possible is by short press button ON/OFF. Work in this mode is signalize by arrive sign ZNAK. Short pressing this button again cause pass to normal work mode.



Pass to edit chosen parameter is make by short press button ON/OFF. Example reset choose to edition cycle P2 at Saturday is present on under picture:

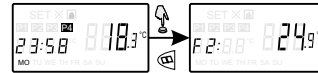


The first is edited activation time for cycle (it signalize by blink of timer on display). By buttons "UP" or "DOWN" select time to activate cycle. Need remember that time must by set with step 15 min, start from 6:00 am and end at 11:45 pm. Additional must be implement condition: time of next cycle must be longer than time of earlier cycle (P1<P2<P3<P4) . Short pressing button ON/OFF cause enter time of start cycle and pass to edit temperature value. By buttons "UP" or "DOWN" set temperature (from range 5 to 50 °C), enter by buttons ON/OFF.



READ REPORTS FROM OUTPUT SENSOR.

If want to read temperature from outside sensor, need to short press button MENU. Return to earlier menu is automatically after 20 sec., or short press button ON/OFF.



SWITCH OFF REGULATOR

Switching OFF the regulator is possible by hold button ON/OFF by 3 sec. Again switching ON is make similar.



PROGRAMMING

Enter change in programming mode:

- Push button Menu cause save actual parameter and pass to edit the next.
- Push button On/OFF cause save actual parameter and out from programming mode.
- If by 20 sec any buttons will not push then regulator save parameter value and out from programming mode.

Characteristics settings:

To change temperature characteristics need hold button MENU by 5 sec. Pass to characteristics settings mode is signalize by blink signs MO..FR and P1. It means that editing is the first cycle for work days. Reconnect between next cycles (P1, P2, P3, P4) for work days is make by short press button "UP". Pass to edition characteristics settings for next days (Mon, ..Fri, Sat.-Sun.) need short press button "DOWN".

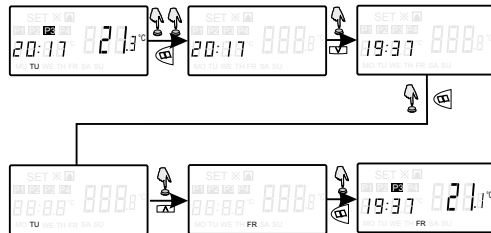
Similarly as set characteristics points for cycles (P2 P3 P4) and leaved days (Sat. Sun.). Every time entering and passing to next point is make by button ON/OFF. Possible is out from programming mode by short press button MENU.

ATTENTION!!

If any button will not push in programming mode by 20 sec. then regulator pass to work mode.

Timer settings

Settings to timer need to in normal work mode short press twice button MENU. This cause displayed only time. To change it need press button "UP" or "DOWN". Short press this buttons cause increase/low parameter value by 1. But hold pressed buttons cause continuing increase/low timer reports. To enter changes need to short press button MENU. Regulator pass to set day of week mode. It is signalize by display sign of actual day. By buttons "UP" or "DOWN" set day of week and enter by button MENU.



Sensor configuration

Use one of three settings for sensor:

d 1

Regulator work only with inside sensor. When inside sensor will break then on display arrive information E1, but regulator pass to safe work mode.

d 2

Regulator work only with outside sensor. When inside sensor will break then on display arrive information E2, but regulator pass to safe work mode.

d 3

Regulator work with inside and outside sensor. But inside sensor work as main which measure environment temperature. Outside sensor is use as additional temperature limiter. When whichever sensor will break system pass to safe work mode. On display will not present any information about errors.

Pass to sensor settings is possible by push button Menu by 5 sec. and next short press button Menu. By buttons "UP" or "DOWN" set work mode.



Outside sensor configuration

If regulator is configured to work with two sensors, then outside sensor is use to switch OFF heating in the cause when environment temperature cross ordered value. To set this level need hold button Menu by 5sec and next short press twice button Menu.

To make correction need hold button Menu by 5 sec., and next four times press button Menu. On display will present measurement temperature by sensor, which will be change to up or down (with step 0,1°C) by buttons "UP" or "DOWN"



TECHNICAL DATA

supply	230V AC
current load	<16A
joint	1NO
range of regulation temperature	5÷60°C
hysteresis setting range	0÷10°C
setting precision	1°C
measurement precision	1°C
precision	±1°C
reading precision	0,1°C
temperature sensor	NTC
length of probe cable	2,5m
power consumption	0,8W
working temperature	-10÷50°C
terminal	screw terminals 1,5mm ²
dimensions	
front	83,5×83,5mm; de.22mm
back	R50; de.27,5mm
fixing	under plaster box R60
outside sensor	NTC
dimensions	R7; h=25mm
isolation	bush PC
cable	PC2×0,34mm; i=3m

Pass to programming mode is signalize by displayed sign F2 and actual parameter value. Default value is 50 °C, by buttons "UP" or "DOWN" set value from range 15...50 °C with precision 1°C



Anti-freezing temperature

This parameter (F3) define temperature which will hold when regulator will work in anti-freezing mode. This temperature will set from range 0...10 °C with precision 1°C (default is set 5°C).

To change this value need press button by 5sec. and next three times short press button Menu. By buttons "UP" or "DOWN" set ordered value.

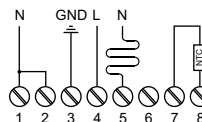


Calibration reports from sensor

Calibration of sensor make possibility to adapt reports to real temperature value.

ATTENTION!! When regulator is set to work with inside sensor or with two sensors, then correction will make only for inside sensor. (signalize by d1 on display). If regulator is set to work with outside sensor then correction will make only for outside sensor (signalize by sign d2 on display).

WIRING DIAGRAM



OUTPUTS DESCRIPTION



During assembly of regulator take care. Wrong connection will cause give electric shock or/and break receiver which is supplied by regulator.

- 1 - Regulator supply N
- 2 - Regulator supply N
- 3 - Protection cable PE
- 4 -Regulator supply L
- 5 - Output to connect the heater (230V/max. 16A)
- 7/8 - Output to connect the outside probe NTC

ASSEMBLY

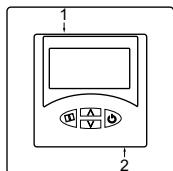


Do not install device which is break or incomplete.



Do not install device in rooms where is high humidity, for example bathroom.

1. Take OFF the power.
2. By flat screwdriver carefully press catches (1 and 2 on picture) which hold regulator box.
3. Take OFF the front part of regulator. (carefully to not break electronic system and cable belt).
4. Set down regulator part in under plaster box, and screw on by screws
5. Again connect two parts of regulator.



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