User and installation guide

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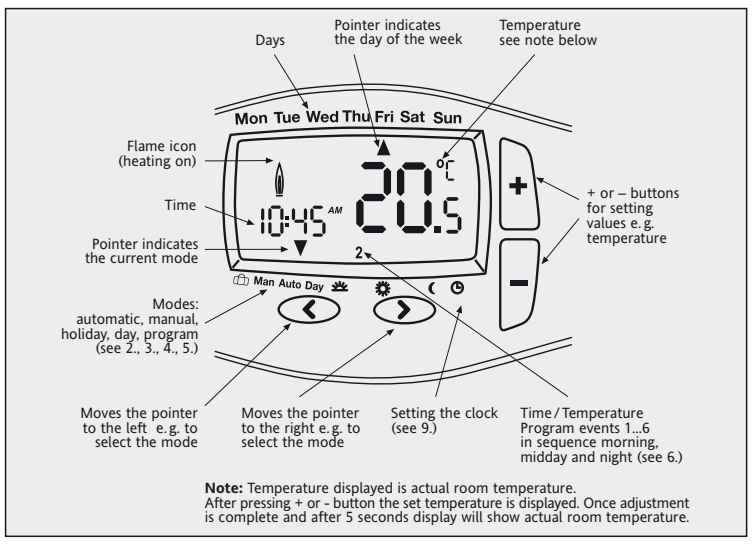
IN STAT+ 3R
Room temperature Controller

GB

I. User Guide

Operation (Overview)



1. Principle of function

IN STAT+ the programmable room thermostat allows you to set time periods (up to 6 per day) and temperatures to suit your own lifestyle. Once fully installed and powered the device will automatically set the correct time and in auto mode will control your heating system according to pre-set program 1 (see 6.). The temperature is controlled by sensing air temperature, switching on the heating when the air temperature falls below the thermostat setting and switching it off once this set temperature has been reached.

The adjusted values (while programming) will be accepted automatically after ~5 sec.

2. Automatic mode (AUTO)

In this mode, the room temperature is automatically controlled according to the pre-set program. The pointer indicating the mode is set to AUTO. The number at the bottom right indicates the program event during the day. (Fig. 1)

3. How to change the temperature for a short period of time (override)

When in AUTO mode, you can override the existing temperature setting for a short period of time.

Press the + or – buttons to change the temperature setting.

While in temperature override the pointer indicates both AUTO and MAN (Fig. 2).

When the next programmed time/temperature event is reached, the device will revert to the AUTO mode.

4. How to set a constant room temperature (manual operation)

In this mode, a constant temperature can be set and the pre-set program is ignored.

The temperature last selected is chosen as the initial temperature.

How to activate this mode

Press the < button until the pointer indicates MAN (Fig. 3).

Set the temperature	by pressing the +- button

Exit the mode

by pressing the > button

5. How to set the room temperature for a set time (holiday/party mode)

In this mode, the temperature can be set for periods of time ranging from a few hours up to 199 days, e.g. when you are away from home for longer periods of time (holidays).

The remaining hours/days are shown. Time periods between 1 hour and 23 hours and 1 day and 199 days can be set.

How to activate this mode

Press the < button until the pointer indicates the suitcase icon (Fig. 4)

Set the temperature	by pressing the +- button
Select the time	by pressing the < button
Set the time	by pressing the +– button

Once you have set your time period, the time will flash for 10 seconds and then start the holiday/party period.

To exit this mode, press < or >.

When hours have been set, the controller will return to AUTO mode once the set hours have passed.

When days have been set, the controller will return to AUTO mode at midnight of the last day.

Note: the current day (today) must be included in the setting.
e.g. 1 day is set; the controller returns to AUTO today at midnight.

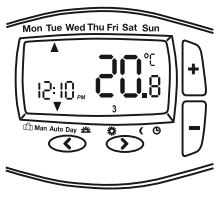


Fig. 1

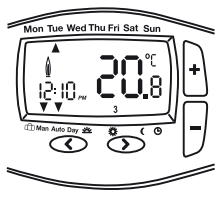


Fig. 2

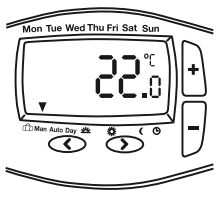


Fig. 3

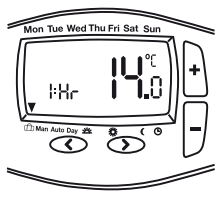


Fig. 4

6. Pre-set programs

There are 3 pre-set time/temperature programs which are already available in the controller. Pre-set program 1 (as shown below) is the default. Therefore, if pre-set program 1 is the best program to suit your lifestyle, you do not need to change the time/temperature settings on the device.

To select an other program see 8.3

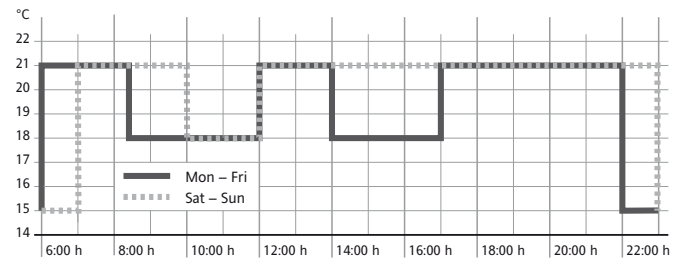
Program 1 (home during the day)

Monday to Friday

Events	1	2	3	4	5	6
Time	6:00	8:30	12:00	14:00	17:00	22:00
Temperature °C	21,0	18,0	21,0	18,0	21,0	15,0

Saturday and Sunday

Events	1	2	3	4	5	6
Time	7:00	10:00	12:00	14:00	17:00	23:00
Temperature °C	21,0	18,0	21,0	21,0	21,0	15,0



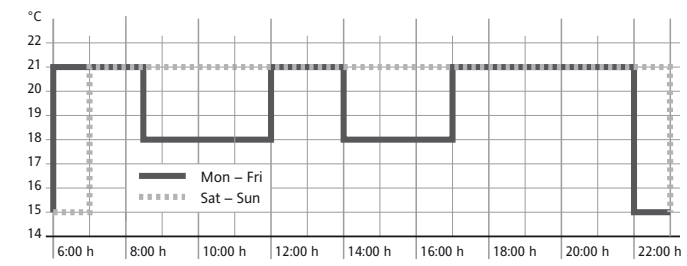
Program 2 (home for lunch and on weekends)

Monday to Friday

Events	1	2	3	4	5	6
Time	6:00	8:30	12:00	14:00	17:00	22:00
Temperature °C	21,0	18,0	21,0	18,0	21,0	15,0

Saturday and Sunday

Events	1	2	3	4	5	6
Time	7:00	10:00	12:00	14:00	17:00	23:00
Temperature °C	21,0	21,0	21,0	21,0	21,0	15,0



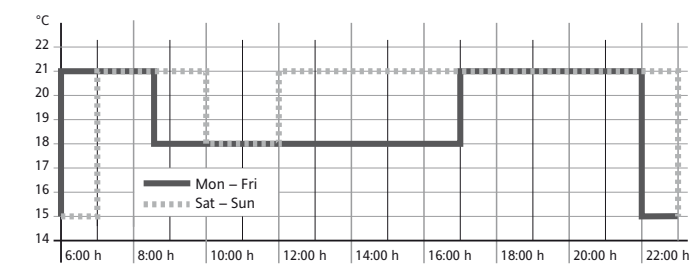
Program 3 (at work all day)

Monday to Friday

Events	1	2	3	4	5	6
Time	6:00	8:30	12:00	14:00	17:00	22:00
Temperature °C	21,0	18,0	18,0	18,0	21,0	15,0

Saturday and Sunday

Events	1	2	3	4	5	6
Time	7:00	10:00	12:00	14:00	17:00	23:00
Temperature °C	21,0	18,0	21,0	21,0	21,0	15,0



7. How to adjust the pre-set time/temperature program to suit personal needs

Select the day function	by pressing the > button up to position "Day"
Select the day	by pressing the +- button

Set the times for this day

Select the event (1…6)	by pressing the > button
Set the time	by pressing the +- button
Select the temperature	by pressing the > button
Set the temperature	by pressing the +- button

The > button must be pressed to accept a setting.

If you wish to change other events or days, repeat the actions described above. To return to the auto mode, press the < button.

Note: The last event of the current day can be extended up to the first event of the following day.

If operating mode "7 days" is chosen (see installer options, option 1), the days can be selected as blocks or individual days (Fig. 5 to 8).

The blocks are selected by repeatedly pressing the > button.

Note: To facilitate programming, blocks of days with the same times/temperatures can be formed before starting.

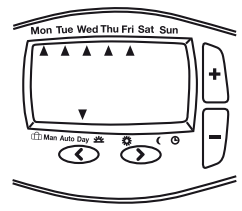


Fig. 5:
Monday to Friday as one block
(working days)

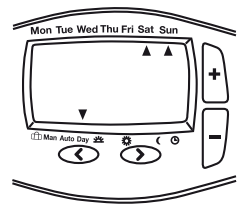


Fig. 6:
Saturday and Sunday as one block
(days off)

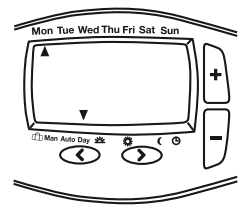


Fig. 7:
Each day is individual day

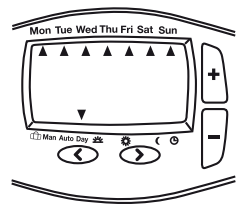


Fig 8:
Monday to Sunday as one block (all days)

8. How to change user options

The controller offers a number of options that can be changed by the user (see Table 1).

To activate the menu,	in AUTO Mode press the < and > buttons simultaneously for 3 seconds
Select an option	by pressing the < or > button
Change an option	by pressing the +- button

Press < or > to accept each change.

To exit the menu, press the < and > buttons simultaneously for 3 seconds.

If no button is pressed within 2 minutes, the device will return to the auto mode.

8.1 How to change from 24h to 12h clock (option 1, table 1)

Shows the time as 24 hours or 12 hours

8.2 How to change the manual set point temperature (option 2, table 1)

Setting the temperature used when the manual mode is selected for the first time, e.g. 20°C

8.3 How to change to another pre-set program (option 3, table 1)

Selection of a pre-set program to be used for programming events (see 6.).

8.4 How to change the number of events per day (option 4, table 1)

2, 4 or 6 time/temperature events can be selected for all days according to individual need (not used events will be skipped). If there is no need for e.g. 6 events, choosing 4 makes programming easier.

8.5 How to switch on/off the automatic daylight savings time/standard time change (option 5, table 1)

You can select whether or not you want the time change to be carried out automatically. If it is not carried out automatically, the time has to be adjusted manually (see 9.).

8.6 How to change the temperature display (option 6, table 1)

The temperature display can be adjusted to individual needs, e.g. 3 = +0,3°; -15 = -1,5°.

8.7 How to restore the built in time temperature programs (option 7, table 1)

Restores the pre-set programs to its original factory settings.

8.8 How to switch off the programmable thermostat (option 8, table 1)

When switched off, the programmable thermostat no longer controls the room temperature and the room is not heated. The display will show OFF, and the buttons will not function.

In the installer options (refer to Installation Guide) you can select whether or not frost protection is to active (heating is called for if the temperature falls below 5°C) when the programmable thermostat is switched off.

9. How to change the time, day, month and year

The controller comes with a pre-set clock, which also automatically switches from daylight savings time to standard time.

There should be no need to change these settings. However, should the need arise, the settings can be changed in the following way.

Activate the clock mode:

Select DAY with button > and then Sunday with button +
With button > move through all 6 time/temperature events (without any modifiaction) until the pointer indicates the clock icon.

The time will now flash.

Set the time	by pressing the +- button
Press the > button to select the day	Press the +- button to change the setting
Press the > button to select the month	Press the +- button to change the setting
Press the > button to select the year	Press the +- button to change the setting

Press the > button to return to the AUTO mode

Table 1 User Options

User options	Description	Select between		Default
1	Change 12 h or 24 h clock	12	24	24
2	Change he manual set point temperature	7	32	20
3	Change to another pre-set program	1	3	1
4	Change the number of program events per day	2, 4 or 6		6
5	Switch on/off automatic daylight savings time/standard time change	ON	OFF	ON
6	Change temperature display	–5.0	5.0	0.0
7	Restore the built in time temperature programs	ON	OFF	OFF
8	Switch off the thermostat	ON	OFF	OFF

II. Installation Guide

Warning!

Switch off mains supply before removing an existing room thermostat or installing this controller.

Caution!

The device may only be opened and installed according to the circuit diagram on the device or these instructions by a qualified electrician. The existing safety regulations must be observed.

Appropriate installation measures must be taken to achieve the requirements of protection class II.

This independently mountable electronic device is de-signed for controlling the temperature in dry and en-closed rooms only under normal conditions. The device confirms to EN 60730, it works according operating principle 1C.

1. Applications:

The electronic thermostat *IN STAT+3R* can be used for temperature controls together with:

- Actuators of floor heating systems or radiators
- Oil and gas warm water heating
- Circulating pumps
- Heat pumps
- Electric radiators

2. Installation:

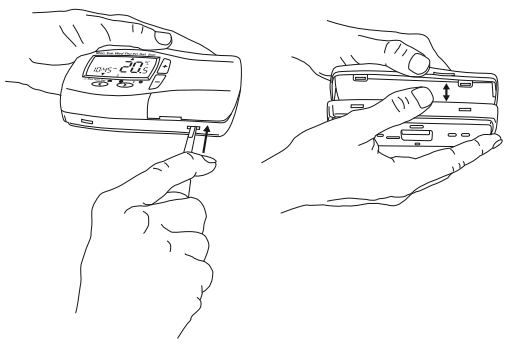
Installation location:

The device should be installed in a location in the room which:

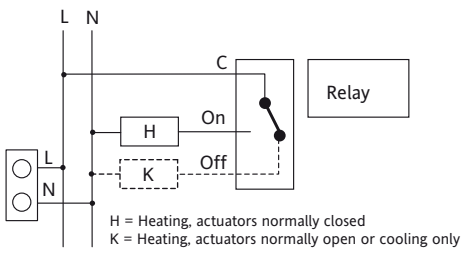
- is easily accessible for operation
- is free of curtains, cabinets, shelves, etc.
- allows for free air circulation
- is not subject to direct sunlight
- is not subject to draught (e.g. when windows/doors are opened)
- is not subject to direct influence from the heating sources
- is not on an outside wall
- is about 1.5 m above the floor

The controller must be installed directly onto the wall or on a flush-mounting socket.

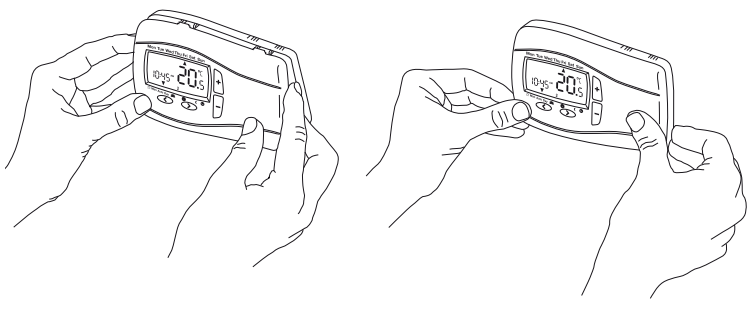
1. Remove the front cover using a flat screwdriver and separate from back plate.



2. Attach the back plate to a flush-mounting socket using suitable wall plugs and screws.
3. Complete the wiring to the heating source according to the wiring diagram inside the product or below.



4. Replace the front cover by pushing it fully onto the back plate.



The controller is now installed and will automatically start to control the room temperature according to the pre-set program 1 (refer to User Guide).

All important functions are set ex-factory. If you wish to change any of the settings, please refer to the options in the User Guide.

According to the heating type, refer to item 3.10 (option 11)

3. Installer options

Attention: The settings should only be carried out by the installer only, as settings may affect the functions and security of the heating system. List of Installer options see Table 2.

To activate the menu,	press the < and + buttons simultaneously for 5 seconds
Select an option	by pressing the < or > button
Change an option	by pressing the +- button

Press < or > to accept each change.

To exit the menu, press the < and + buttons simultaneously for 5 seconds.

If no button is pressed within 2 minutes, the controller will return to the auto mode.

3.1 Kind of program (option 1, table 2)

The operating mode of the controller is set via this function.

7 days (7d):
Different time/temperature settings can be chosen for each day individually.

5/2 days (5:2):
Different time/temperature settings can be chosen for the weekdays (Monday to Friday) and the weekend (Saturday and Sunday) in this mode.

24 hours (24h):
The same time/temperature settings are used for all days of the week in this mode.

3.2 Access protection lock / child lock (option 2, table 2)

When this function is activated, all buttons will be locked.

To switch off the protection lock, enter the installer options and set option 2 to OFF.

3.3 Frost protection (option 3, table 2)

The frost protection of the controller can be activated via this option.

Frost protection will switch on the heating if the room temperature falls to 5°C and will then control the temperature at 7°C.

When in Off mode frost protection will still be active.

3.4 Low and high limit set points (option 4, 5, table 2)

These limits can be used to prevent temperatures from being set too high or too low.

The set point default values are 32°C (high limit) and 7°C (low limit).

3.5 Optimum start (option 6, table 2)

If this function is activated, the controller will automatically calculate the warm up time for the heating system in order to achieve the desired temperature for each event.

This function is a major energy saving factor.

Note: This function is only possible in the AUTO mode.

After commissioning, it takes a couple of days for the controller to gather enough information to correctly calculate this function.

3.6 Heating/cooling (option 7, table 2)

Use this function to select whether the controller is used exclusively for either heating or cooling applications.

HEATING: The relay will switch on when the temperature falls below the set point.

COOLING: The relay will switch on when the temperature rises above the set point.

3.7 Valve protection (option 8, table 2)

If valve protection is selected, the controller's relay will be switched on once a day at 10 o'clock.

This function is designed to prevent the valves and pumps from getting stuck during the summer months.

If this is required, select ON in the installer options.

The operating period can be chosen via option 9.

3.8 Valve protection time (option 9, table 2)

The valve protection time can be set between 1 and 5 minutes (default: 3 minutes).

3.9 Emergency heating in case of sensor failures (option 10, table 2)

The following message is shown in case of sensor failures:

E1 for an internal sensor failure

A sensor failure can have the following effects:

1. If this function is activated, the heating is switched on for 30% of the time (this prevents the room from being too cold or overheating)
2. When this function is not activated, the heating is switched off

3.10 Application type (option 11, table 2)

This function is used to select the application type of the controller.

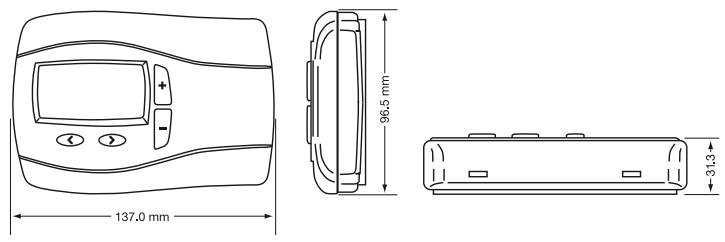
0 = Radiator control or Electric Heat (= default)

1 = Water Floor heating

4. Technical data

Order Type	*IN STAT+ 3R*
Supply voltage	230 V AC 50 HZ (195 … 253 V)
Temperature setting range	7°C to 32°C
Temperature resolution	0,1°C
Switching current	10mA …. 16(2)A AC 230 V~
Output	Relay change over contact, voltage free
Output signal	Pulse width modulation (PWM)
Timing resolution	1 minute
Accuracy of clock	< 4 Min / year
Ambient temperature	Operating 0°C bis 40°C Storage –20°C bis 85°C
Ambient humidity	Operating 25 % to 85% (without condensation) Storage 15% to 95%
Rated impulse voltage	4 kV
Ball pressure test temperature	75 ± 2 °C
Voltage and Current for the for purposes of interfernce measurements	230V, 0,1A
Pollution degree	2
Degree of protection	IP 30
Software class	A
Safety class	II (see Caution!)
Weight	~ 200 g
Energy class (acc. EU 811/2013, 812/2013, 813/2013, 814/2013)	IV = 2 %

Dimensions



5. Troubleshooting:

1. It is getting warm too late

a. Are clock and program events set correctly?

b. Is the Optimum Start switched on (see 3.5)?

c. Did the thermostat have enough time (some days) to determine the room data?

2. The thermostat does not accept any changes

Is the access protection lock switched on (see 3.2)?

3. E1 is shown in the display:

Sensor failure (see 3.9)

6. Recycling

Batteries, rechargeable or not, should not to be disposed of into ordinary household waste. Instead, they must be recycled properly to protect the environment and cut down the waste of precious resources.

Your local waste management authority can supply details concerning the proper disposal of batteries.

This product should not be disposed of with household waste. Please recycle the products where facilities for electronic waste exist. Check with your local authorities for recycling advice.

Table 2 Installer Options

Installer-Options	Descriptions	Select between			Default
1	Kind of program	5:2 days (5:2)	7 days (7d)	24 hours (24h)	5:2 days (5:2)
2	Access protection lock (child lock)	ON	OFF		OFF
3	Frost protection	ON	OFF		ON
4	Low limit set point °C	7	High limit		7
5	High limit set point °C	Low limit	32		32
6	Optimum start	ON	OFF		ON
7	Heating/Cooling	Heat	Cool		Heat
8	Valve protection	ON	OFF		ON
9	Valve protection time	1 … 5			3
10	Emergency heating (sensor failure)	ON	OFF		OFF
11	Application type	Radiator (0)	Water Floor heating (1)		0