Room thermostat ST2

User manual
Setting manual
Installation manual

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Appearance and description

ST2 is a powerful and efficient modular room thermostat with exchangeable modules. It can be used in heating or (and) cooling systems. It is suitable for radiator, convector and surface heating systems. This manual applies for:
- ST2R - ST2 with relay module
- ST2RDR - ST2 with double relay module
- ST2JV - ST2 with module for Junkers and Vaillant gas boilers
- ST2JVDR - ST2 with module for Junkers and Vaillant gas boilers and auxiliary relay module
- ST2TX - ST2 with module for wireless control

Room thermostat ST2 also enables connection of auxiliary temperature sensor[1] and remote activation with the telephone[1].

LEGEND

Hold key while pressing other keys.

Hold key until you hear a beep sound.

Press and release key.

Press key to increase or decrease value.

[1] *this option is not available in all ST2 editions*

Picture 1

Controlled devices

- **▥** - gas boiler
- **♨** - liquid fuel boiler
- **▽◀** - mixing valve
- **⬤** - pump
- **▥▥** - d. h. w. storage tank

Measured temperature

Program timer CH2
- **⌐** - d. h. w. warming
  - ON - active
  - OFF - inactive

Empty batteries

Date and time

Remote activation

Program timer CH1
- **☼** - day. temperature
- **☾** - night temperature

Frost protection

ECO

Keyboard locking

Wireless mode

PARTY

Operation mode
- **⏻** - off
- **♨** - heating
- **❄** - cooling
- **⌐** - d. h. w. warming

Knob for setting the day temperature

PARTY - day temperature mode

Stand by mode

Night temperature setting

On mode - Operation according to the program timer

ECO - saving temperature mode

SELTRON   ST2

Operating mode selection

Heating activation
Press key   to select the requested operating mode (Picture 2).
Selected operation mode is indicated on display.

$\underline{\underline{\underline{\text{\ss}}}}$ - room heating   Picture 2
   - room cooling
   - domestic hot water warming

Room heating operates according to the program timer CH1, domestic hot water warming operates according to the program timer CH2.

Stand-by
Press key ⏻ (Picture 3). On the display appears symbol   .
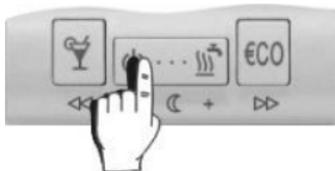
Frost protection remains active.

Picture 3

ℹ️ *Frost protection temperature is 6 °C and can be changed in program group P1.3 (page 22).*

Setting the day and night temperature

Day temperature
Turn knob to set the requested
day temperature between 10 °C
and 30 °C (Picture 4).

Picture 4

Night temperature
Hold key ••• ( ) for approx. 5 seconds (Picture 5a). Release
key after you hear a beep. Now press key ⏻(—) or (+) to set
the requested night temperature (Picture 5b). To save and quit set
-up, press key •••)(nce again.

Picture 5a

Picture 5b

Setting the comfort temperature

Hold key 🍸 for 5 second (Picture 6a). Use key ⏻(—) or 🔥(+) to set the COMFORT temperature between 10 °C and 30 °C (Picture 6b). To save and quit set-up, hold key 🍸 for 5 seconds.
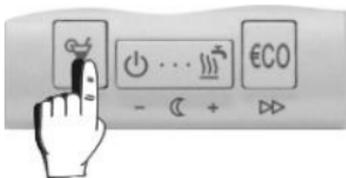
Picture 6a

Picture 6b

Room heating with the comfort temp. operates according to the program timer CH3 and has precedence over to room heating according to the program timer CH1.

ℹ️ *If the comfort heating mode is inactive, the comfort temperature setting is also inactive. The comfort temperature mode is setted in program group P1.8 (page 22).*

PARTY and ECO operating mode

PARTY - day temperature operation
Press key 🍸. Use key ⏻(—) or 🔥(+) to set duration of the PARTY mode between 1 and 24 hours. For permanent PARTY mode, select on.
To stop PARTY mode at anytime, press key 🍸.

ECO - night temperature operation
Press key €CO . Use key ⏻(−) or ( ) to set duration of the
ECO mode between 1 and 24 hours. For permanent ECO mode,
select on.
To stop ECO mode at anytime, press key €CO.

ℹ️ *The ECO temperature reduction is setted in*
program group P1.2 (page 22).

Holiday mode

Hold key ⏻ for approximately 15 seconds. Release the key after
you hear a beep. Use key ⏻(−) or 🌡(+) to set duration of the
HOLIDAY mode between 1 and 99 days.
To stop HOLIDAY mode at anytime, again hold the key ⏻ for 15
seconds.

ℹ️ *The HOLIDAY mode temperature is setted in program*
group P1.4 (page 22). Factory pre-setted HOLIDAY
temperature is 12 °C.

Setting the accurate time

Hours
Hold key 🍸 and press key ⏻(–)
or 🔥(+) to set the hours (Picture
7).
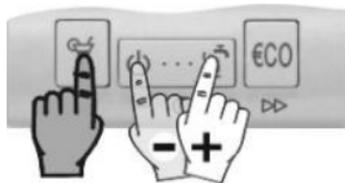
Picture 7

Minutes
Hold key €CO and press key
⏻(–) or 🔥(+) to set the
minutes (Picture 8).

Picture 8

Day
Hold both keys 🍸 and €CO, then
press key ⏻(–) or 🔥(+) to set
the day (Picture 9). The days are
marked from 1 to 7. Monday is
marked as 1 and Sunday as 7.
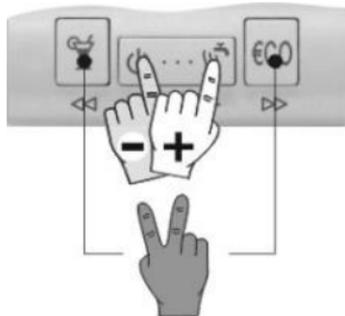
Picture 9

ℹ️ *If the ST2, by battery exchange, isn't functional for a*
while, the time is set to Monday, 20:00.

Program timer

Program timer has three channels: CH1, CH2 and CH3.
CH1 is used for programming the room heating (day / night),
CH2 is used for programming the domestic hot water warming,
CH3 is used for programming the comfort room heating.

Selecting the program channel
Hold key ••• and press key €CO (Picture 10). Release both keys
after you hear a beep. Press key ♈ (◄◄) or key €CO (▶▶) to select
the program channel you wish to modify.
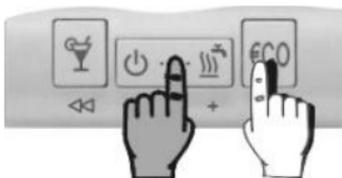
Picture 10

Modifying the time program

Press key ⏻ (–) or ♨ (+) to select the program place that you
wish to modify. The display simultaneously writes out the time
command, the successive number of the program space (Picture
11) and switch-on/off command (picture 12, 13 and 14).

Time
command

Successive number
of the program space

Picture 11

CH1

🕒 ☀ - day temperature

🕒☾ - night temperature

Picture 12

CH2

🕒🚰ON - active domestic hot water warming

🕒🚰OFF - inactive domestic hot water warming

Picture 13

CH3

🕒²☀ - active comfort temperature

🕒² - inactive comfort temperature
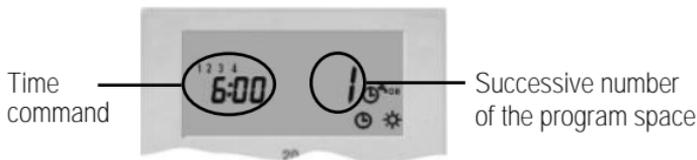
Picture 14
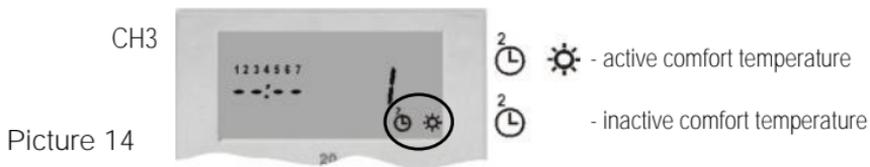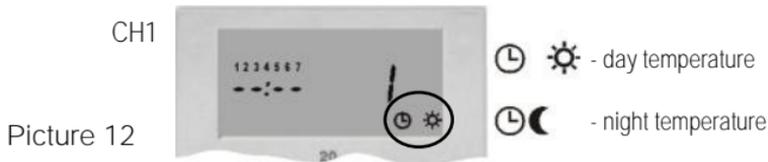
Now press key €CO (▷▷). On the display starts to flash day. Press key ⏻ (−) or 🔥(+) to set day, then press key €CO (▷▷). On the display starts to flash hours. Press key ⏻ (−) or 🔥(+) to set hours, then press key €CO (▷▷). On the display starts to flash minutes. Press key ⏻(−) or 🔥( ) to set minutes, then press key €CO (▷▷). The display stops flashing. Now is possible to move to the next program space. Press ⏻(−) to move to the next program space or press 🔥(+) to move to the previous program space.

Every channel in program timer (CH1, CH2 and CH3) has 32 program spaces. Time commands for day and night temperature mode, time commands for active and inactive d. h. w. warming and time commands for active and inactive comfort temp. mode are

successively followed.

Unused time commands are indicated as - -:- - (picture 15). Room thermostat ST2 displays only used program spaces.

Unused time command
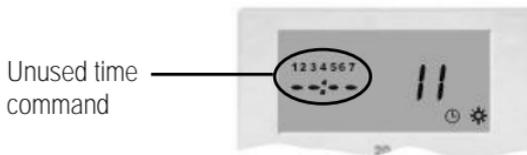
Picture 15

Pre-setted time programs

Room thermostat ST2 has 6 pre-setted time programs for room heating and 6 pre-setted time programs for domestic hot water warming. For each channel CH1 and CH2 is possible to select between 4 fixed (Pr1, Pr2, Pr3 and Pr4) and 2 users setted time programs (Pr1 🖤 and Pr2 🖤).

Pre-setted time program selection
Hold key ••• and by pressing key 🍸 select the suitable time program (Picture 16). Symbol 〰 indicates programs for room heating (CH1), symbol ➰ indicates programs for domestic hot water warming. (CH2). Te view the time commands in program, press key 〰(+) or ⏻(−).
The selected time program always overwrites the previous one. To keep the current time program active, select - - -.
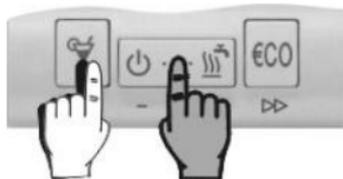
Picture 16

CH1 - time program for room heating

CH2 - time program for dom. hot water warming

Pr1

#	Day	Time	☼/☾
1	1 2 3 4 5	6:00	☼
2	1 2 3 4 5	8:30	☾
3	1 2 3 4 5	11:00	☼
4	1 2 3 4 5	13:30	☾
5	1 2 3 4 5	16:00	☼
6	1 2 3 4 5	22:00	☾
7	6 7	7:00	☼
8	6 7	22:00	☾

Pr1

#	Day	Time	ON/OFF
1	1 2 3 4 5	6:00	ON
2	1 2 3 4 5	8:30	OFF
3	1 2 3 4 5	11:00	ON
4	1 2 3 4 5	13:30	OFF
5	1 2 3 4 5	16:00	ON
6	1 2 3 4 5	22:00	OFF
7	6 7	7:00	ON
8	6 7	22:00	OFF

Pr2

#	Day	Time	☼/☾
1	1 2 3 4 5	5:00	☼
2	1 2 3 4 5	7:30	☾
3	1 2 3 4 5	13:30	☼
4	1 2 3 4 5	22:00	☾
5	6 7	7:00	☼
6	6 7	22:00	☾

Pr2

#	Day	Time	ON/OFF
1	1 2 3 4 5	5:00	ON
2	1 2 3 4 5	7:30	OFF
3	1 2 3 4 5	13:30	ON
4	1 2 3 4 5	22:00	OFF
5	6 7	7:00	ON
6	6 7	22:00	OFF

Pr3

#	Day	Time	☼/☾
1	1 2 3 4 5	6:00	☼
2	1 2 3 4 5	22:00	☾
3	6 7	7:00	☼
4	6 7	23:00	☾

Pr3

#	Day	Time	ON/OFF
1	1 2 3 4 5	6:00	ON
2	1 2 3 4 5	22:00	OFF
3	6 7	7:00	ON
4	6 7	23:00	OFF

Pr4

#	Day	Time	☼/☾
1	1 2 3 4 5	14:00	☼
2	1 2 3 4 5	22:00	☾
3	6 7	7:00	☼
4	6 7	22:00	☾

Pr4

#	Day	Time	ON/OFF
1	1 2 3 4 5	14:00	ON
2	1 2 3 4 5	22:00	OFF
3	6 7	7:00	ON
4	6 7	22:00	OFF

Table 1: Pre-setted time programs Pr1, Pr2, Pr3, Pr4

In program timer CH1 and CH2 are factory pre-stored time programs Pr1.

User pre-setted programs Pr1 🖐 and Pr2 🖐

Pre-setted time programs with a symbol 🖐, can be user modified. These programs can be changed or modified the same way as programs in program timer (see chapter *Modifying the time program*, on page 11).

By default is in program Pr1 🖐 , stored program Pr1 and for program Pr2 🖐, program Pr3.

Anti-legionaries disease program

In order to protect against legionaries disease, this room unit has **a special function which warms the d. h. w. over 63 °C.**
The function is activated with a five minute ON interval in the program timer (CH2).

Example :

Pr1

Day	D. h.w. ON	D. h.w. OFF
Mon-Fri	6:00	8:30
Mon-Fri	11:00	13:30
Mon-Fri	16:00	22:00
Fri	5:00	5:05
Sat-Sun	6:00	20:00

The ST2 will warm the d. h. w. over 63 °C every Friday at 5 a. m..
If no d. h .w. temperature sensor is connected the room thermostate will warm the d. h. w. for 2 hours.

We suggest you, to run the anti-legionaries program once in a week during night time.

Manual d. h. w. warming activation

Hold key 💧 for 5 seconds. Release the key after you hear a beep.

Manual domestic hot warming is automatically deactivated, when requested d. h. w. temperature is reached or at the latest after 1 hour.

Thermostat locking

Hold key €CO for 15 seconds. Release the key after you hear a beep. Symbol 🖑 indicates locked room unit. To unlock the ST2, again hold key €CO for 15 seconds.

Setting or modifying the parameters by locked ST2 isn't possible or it's limited.

ST2 locking is setted in service group S1.9 (page 24).

Selection between heating or cooling

To switchover between heating and cooling and in reverse, hold key ♨ for approximately 10 seconds (Picture 17). Release key after you hear a beep. The display writes out active mode for a few seconds, **HEA** - heating or **Coo** - cooling (Picture 18).
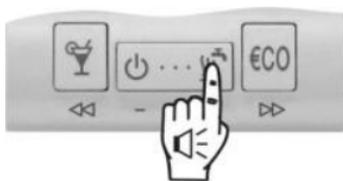
Picture 17

Picture 18

Remote control

With telephone is possible to remotely activate the day temperature mode. Remote activation is signalised with the symbol ☏ . This function is setted in *Program group P3* (page 23).
For analogue telephone line is available device G1-D. Device G44 is intended for remote control with GSM mobile telephone.

Auxiliary temperature sensor - temperature overview

In normal display mode, hold key €CO and press key ☿ (Escape).

ℹ️ *If the auxiliary sensor isn't connected, this command isn't active.*

Command to quick save and quit (Escape)

Every time you wish to quick store and quit set-up, hold key ♈ and press key €CO . Release both keys after you hear a beep.

All modifications made, are stored. This command isn't valid for program and service settings.

Battery replacement

Empty batteries are indicated with the symbol ▯ on display. We suggest the battery replacement every 2 years. ST2 is supplied with two alkaline batteries 1.5 V type AAA. Battery socket is inside the ST2. To remove thermostat from the wall plate, do the following. Hold thermostat in height of keys and pull it towards yourself (Picture 19 - OPEN). After battery exchange, put ST2 back on the wall plate, by doing the following. Hook ST2 on top and push it with bottom towards the wall plate (Picture 19 - CLOSE).

Picture 19

Battery exchange should be done within 20 seconds. In other case you will have to set the accurate time again.

Menu

All data and settings are joined into 16 groups:
CH1·············program timer for room heating
CH2·············program timer for d. h. w. warming
CH3·············program timer for comfort room heating
d1·············room thermostat data
P1·············program group 1
P2·············program group 2
P3·············program group 3
S1·············service group 1
S2·············service group 2
S3·············service group 3

Menu
To enter menu, hold key ••• and press key €CO (Picture 26).
Release keys after you hear a beep. The display writes out first
group CH1.
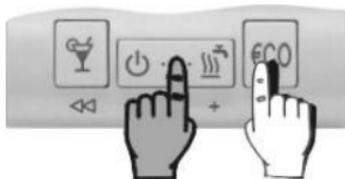
Picture 20

Menu navigation

In menu, keys have new meaning, marked bellow them (Picture 21). To move between the groups press key Ψ (◄◄) to move to the left and key €CO (►►) to move to the right (Picture 22). To move within the group press key ⏻ (−) to move down between the lines and key ♨ (+) to move up between the lines. For your better understanding all the lines are marked. First two symbols mark the group and the third symbol successive number of the line in group (Picture 23).

Move to the left

Move to the right

Move down or decrease

Move up or increase

Picture 21

Entrance

CH1   CH2   CH3   d1   P1

P2   P3   S1   S2   S3
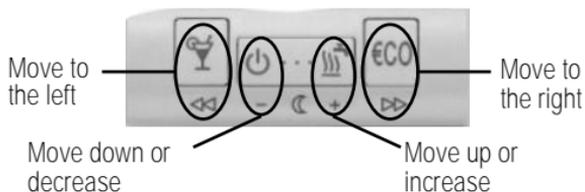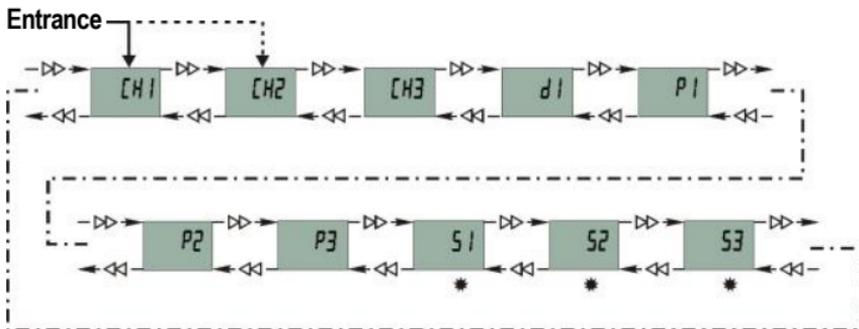
✳ Groups S are by default (factory) settings locked.

Picture 22

ⓘ *Group locking is setted in Service group S3 (page 25).*

Successive Nr. of the line

Group name

Parameter
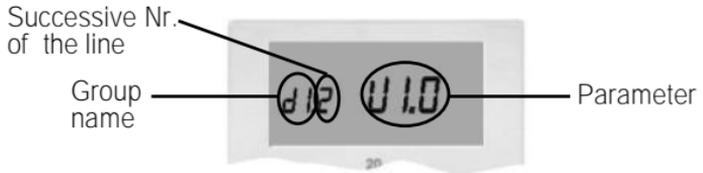
Picture 23

Program timer for room heating CH1
For changing the time program see chapter *Modifying the time program* (page 12).

Program timer for domestic hot water warming CH2
For changing the time program see chapter *Modifying the time program* (page 12).

Program timer for comfort room heating CH3
For changing the time program see chapter *Modifying the time program* (page 12).

Room thermostat data d1
This group is sort of ST2 ID. In this group are information about **ST2, modifying isn't possible. The information are displayed in the** following order:
- **[d1.1]** Room thermostat type (ST2)
- **[d1.2]** Software version
- **[d1.3]** Heating or cooling
- **[d1.4]** ED constant or actuator speed or controlled device
- **[d1.5]** Built-in temperature sensor calibration
- **[d1.6]** Auxiliary temperature sensor calibration
- **[d1.7]** Selected controlled system
- **[d1.8]** Battery voltage
- **[d1.9]** Reserved

Program group P1

Program group P1 is used for the thermostat user settings. To change the selected parameter, hold key ••• for approximately 5 seconds. Parameter starts to flash. Press key ⏻(−) or ◌(+) to set the parameter value. To store the setted value, again hold key ••• approximately 5 seconds.

ⓘ *This procedure, for modifying the parameter, is the same for all program and service groups.*

Group P1 contains the following parameters; (factory setting):
- **[P1.1]** Night temperature (6 °C ÷ 26 °C); **(17 °C)**
- **[P1.2]** temp. reduction in ECO mode (0 °C ÷ -9 °C); (**-3 °C**)
- **[P1.3]** frost protection temperature (2 °C ÷ 20 °C,
      - - - deactivated, P - temp. is setted with the knob); **(6 °C)**
- **[P1.4]** holiday mode temperature (5 °C ÷ 25 °C); **(12 °C)**
- **[P1.5]** ED constant (5 min ÷ 50 min, - - - deactivated); (20 min)
- **[P1.6]** Display of controlled device (- - - none, 1 - oil boiler,
      2 - gas boiler, 3 - actuator, 4 - pump); (1)
- **[P1.7]** Temperature sensor calibration (-2 °C ÷ 2 °C); **(6 °C)**
- **[P1.8]** Comfort mode temp. (10 °C ÷ 30 °C, - - - inactive); (- - -)
- **[P1.9]** Periodic activation of pumps and mixing valve
      (- - - deactivated, 1 - activated) [1]; **(1)**

[1] Activation is every Saturday at:
  21:01 - mixing valve or circulation pump activation
  21:02 - d. h. w. circulation pump activation

Program group P2

Program group P2 is intended for additional thermostat's settings.
In program group P2 are the following parameters;
(factory setting):

- **[P2.1] Domestic hot water temperature** (20 °C ÷ 80°C); **(55 °C)**
- **[P2.2]** Switch-on hysteresis for domestic hot water
 (0.5 °C ÷ 10 °C); **(4° C)**
- **[P2.3] Minimal boiler temperature** (20 °C ÷ 70 °C); **(50 °C)**
- **[P2.4] Maximal boiler temperature** (50 °C ÷ 97 °C); **(90 °C)**
- **[P2.5] Naximal stand-pipe temperature** (25 °C ÷ 95 °C); **(65 °C)**
- **[P2.6] Maximal floor temperature** (10 °C ÷ 40 °C); **(30 °C)**
- **[P2.7]** Beeper mode (- - - silent, 1 - by typing, 2 - by program
 Timer changeover, 3 - by typing and program timer
 changeover); (1)
- **[P2.8] Radio channel number** (1 ÷ 16); (1)
- **[P2.9]** Radio module type (1 - AM module, 2 - FM module); (1)
- **[P2.10]** Display of measured temperatures (1 - built in sensor,
 2 - auxiliary sensor, 3 - both sensors - alternating,
 4 - display of requested (setted) temperature,
 5 - return-pipe temperature sensor); (1)
- **[P2.11] Actuator speed** (1 ÷ 8 min); (2 min)
- **[P2.12] Tvmin in cooling mode** (10 ÷ 24 °C); **(16 °C)**

Program group P3
Program group P3 is intended to set the remote control with tele-
phone. In program group P3 are the following parameters; (factory
setting):

- **[P3.1] Requested temperature** (10 °C ÷ 30 °C, P - temperature
 setted with the knob); (P)

[P3.2] Operation mode (1 - room heating
2 - domestic hot water warming, 3 - room heating and
d. h. w. warming, 4 - changeover to cooling mode,
5 - Party mode [1]); (3)

Service group S1
Service group S1 is intended for thermostat's service settings. In
program group S1 are the following parameters; (factory setting):
- **[S1.1]** Controlled heating system
    (1 - heating circuit (ON / OFF control),
    2 - heating circuit (ON / OFF control) and dom. hot water,
    3 - heating circuit (3 point control),
    4 - heating circuit (ON / OFF control) + boiler with built in
       domestic hot water storage tank,
    5 - floor heating,
    6 - domestic hot water,
    7 - gas boiler Junkers or Vaillant (flame power modulation),
    8 - gas boiler Junkers or Vaillant and d. h. w. circulation),
    9 - heating circuit (ON / OFF control) and cooling;
       (depends on installed module - see Table 2)
- **[S1.2]** Auxiliary sensor (- - - no sensor, 1 - room temp. sensor,
    2 - outdoor temp. sensor, 3 - d. h. w. temperature sensor,
    4 - floor temp. sensor, 5 - boiler temp. sensor,
    6 - stand-pipe temperature sensor)
       (depends on installed module - see Table 2)
    - **[S1.3]** Room temperature
    (1 - built-in sensor, 2 - auxiliary sensor,
    3 - min. measured temperature, 4 - max. measured tem-
    perature, 5 - average temperature); **(1 °C)**
- **[S1.4]** Auxiliary temperature sensor calibration
    (-2 °C ÷ 2 °C); (0 °C)
- **[S1.5]** Measured temp. roundup
    (0.1 °C, 0.2 °C, 0.5 °C, 1.0 °C) ; (0,5 °C)

- **[S1.6]** Heating optimisation [1] (- - - deactivated, 1 - activated); (2)
- **[S1.7]** Controlling algorithm
       (1 - P-controller, 2 - PI-controller); (P)
- **[S1.8]** Pre-setted time programs - selection (- - - no selection,
       1 - fixed only, 2 - user programs only,
       3 - fixed and user progr.); (3)
- **[S1.9]** Thermostat locking (- - - no locking, 1 - no locking, but
       limited function of key $\frac{...}{...}$, 2 - enabled key Party and knob,
       3 - enabled only key Party, 4 - full lock); (2)
- **[S1.10]** Relay output timeout - delay (- - - none, 1 ÷ 5 min); (- - -)

[1] Heating optimisation: ST2 automatically calculates the switch-on time and at setted time (night-day changeover) the requested temperature is already reached.

Service group S2

Service group S2 is intended for additional thermostat's service settings. In program group S2 are the following parameters; (Factory setting):
- **[S2.1] Min. scale for temperature setting (0 °C ÷ 90 °C); (10 °C)**
- **[S2.2] Max. scale for temperature setting (10 °C ÷ 90 °C); (30 °C)**
- **[S2.3]** Minimal temperature setting - limitation
       (0 °C ÷ 90 °C, - - - no limitation); (- - -)
- **[S2.4]** Maximal temperature setting - limitation
       (10 °C ÷ 90 °C, - - - no limitation); (- - -)
- **[S2.5] Thermostat hysteresis (± 0.2 °C ÷ ± 10 °C); (± 0.2 °C)**
- **[S2.6] P-zone (± 0.5 °C ÷ ± 10 °C) (± 0.7 °C)**
- **[S2.7]** Timer accuracy correction
       (-5 sec/day ÷ 5 sec/day); (0 sec/day)
- **[S2.8] Differential constant (0.1 ÷ 10)[1]; (1)**
- **[S2.9] Proportional constant (0.1 ÷ 10)[1]; (1)**
- **[S2.10] Integral constant (0.1 ÷ 10)[1]; (1)**

Service group S3

Service group S3 is intended for special thermostat's settings. In program group S3 are the following parameters:

- **[S3.1]** Group locking (- - - no locking,

  1 - locked are groups S,
  2 - locked are groups S and P,
  3 - locked complete menu); (1)

ℹ️ *Access to parameter S3.1 is possible in the following way. Hold key ••• for 20 seconds (picture 24). Release the key after you hear a beep. On the display appears parameter (S3.1). Now it's possible to modify this or any other parameter.*

[1] *Parameters S2.8, S2.9 and S2.10 are intended only for heating circuit with 3 point control.*

Picture 24

Radio connection - test mode for ST2TX

Check if your receiver has the same radio channel number as set-ted in parameter S2.8 on ST2TX. Now activate test mode. Hold key €CO and pres and hold key ••• for 5 seconds (picture 25). Release the keys after you hear a beep.
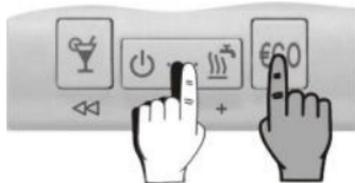
Picture 25

Signal power indication by receivers RX2x, versions up to V1.9
If the radio connection is established, R1 is activated and deacti-vated every 2 seconds. Receiver every 10 seconds lowers the re-ception intension, what is signalised with the light R2. Radio con-nection will operate without interceptions, if R1 is activated and deactivated also by lowered signal intensity.

Signal power indication by receivers RX2x, version V2.0 or higher
If the radio connection is established, R1 is activated and deacti-vated every 2 seconds. Signal light R2 indicates the signal intensity with flashing. Signal intensity is indicated with 1 to 5 flashes. Radio connection will operate without interruptions if the light R2 flashes at least 2 times.

Test mode automatically expires after 5 minutes. You can also end it by using the command "Escape".

Factory settings - ST2 reset

To restore the factory settings hold keys ♈ and €CO for approx. 20 seconds (Picture 26). Release keys after you hear a beep.
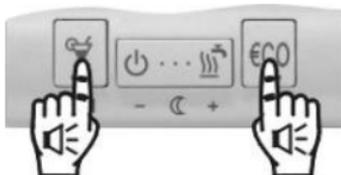
Picture 26

Controlled heating system - selection

S1.1	Controlled system	ST2R	ST2RDR	ST2TX	ST2JV	ST2JVDR
1	**Heating circuit** (ON / OFF control)	◉	●	◉		
2	**Heating circuit** (ON / OFF control) **and d. h. w. warming**		●	●		
3	**Heating circuit** (3 point control)		◉	●		
4	**Heating circuit and boiler** (ON / OFF control)		●	●		
5	**Floor heating**	▲		▲		
6	**Domestic hot water warming**	●	●	●		
7	**Gas boiler Junkers or Vaillant** (flame power modulation)				◉	
8	**Gas boiler Junkers or Vaillant and d. h. w. circulation**					◉
9	**Heating circuit and cooling**		●	●		

LEGEND:
◉ - factory setting ▲ - optional setting, where auxiliary
● - optional setting temperature sensor must be connected

Table 2: Possible applications for particular modules

For floor heating system an auxiliary temperature sensor must be connected.

Thermostat automatically detects connected module and selects default controlled heating system for this module.

INSTALLATION MANUAL

Place of mount

Place of mount is very important for proper ST2 operation. Suitable **places are inner walls, which aren't sun lighted or exposed to** sources of heat and wind. ST2 should be mounted approximately 150 cm above the floor (Picture 27).
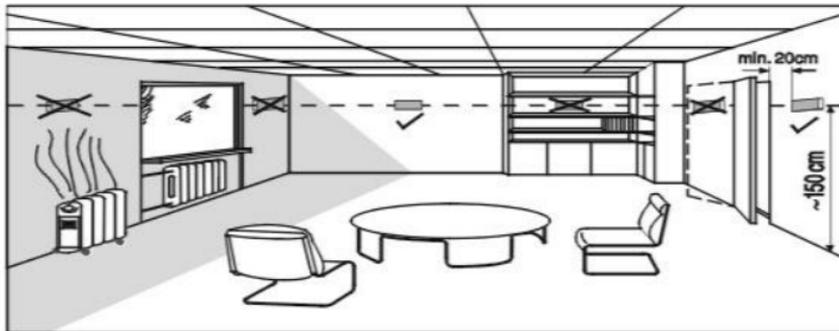
Picture 27

Wall plate mount

Remove the ST2 from the wall plate, by doing the following. With one hand hold ST2 in height of keys and with other hand the wall plate. Now pull them apart (Picture 28).

Picture 28

Unscrew and temporarily remove the protection cover (Picture 29). **Room thermostat is intended for wall mounting. In case you don't** have installed a flush box, tear away the drilling template from the package and mark drilling holes. Use enclosed screws to fasten the wall plate on the wall (Picture 30). After you have done connecting the wires (see chapter Connecting the wires), screw back the protection cover. Now put ST2 back onto the base by doing the following. Hook ST2 on top of the wall plate and push it with bottom towards the wall plate (Picture 19- CLOSE).

Picture 29

Picture 30

Flush box

2×

Wall

2×
ø6
25
ø3.5
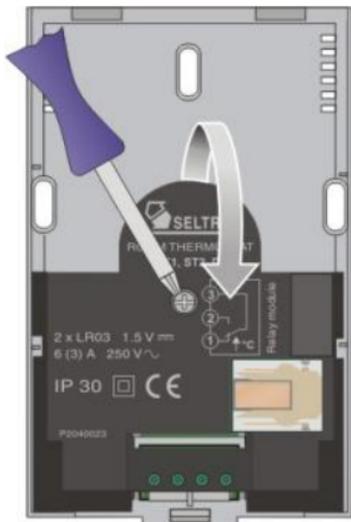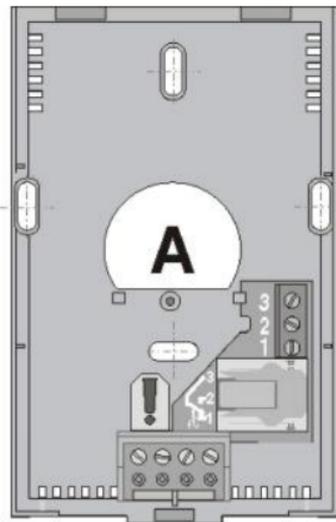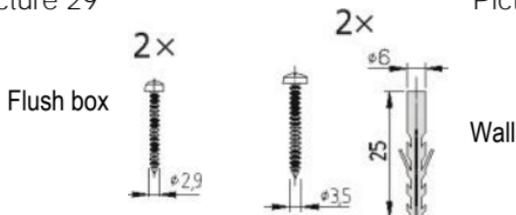
Wires connection

WARNING: Mounting and wiring connections must be done by a qualified installer or authorized company. Local regulations or VDE 0100 and EN IEC 60364 regulations for electrical installations must be considered by doing the wiring connections.

Bring the wires through the opening in bottom of the wall plate (Picture 30-position A). How to connect module is detailed described on pages 33 to 50.

ST2 enables connection of following modules:
- relay module (R)
- auxiliary relay module (DR)
- module for wireless control (TX)
- module for Junkers and Vaillant gas boilers (JV)

ST2 also enables connection of the:
- auxiliary temperature sensor
- device for remote control with telephone

ST2R - ST2 with relay module R

With room thermostat ST2 is possible to control:
- direct heating circuit pump (picture 31)
- boiler control (picture 32)
- heating circuit with mixing valve (picture 33)
- gas boiler (picture 34)
- electric floor heating (picture 35)
- domestic hot water warming (picture 36)

Table bellow shows parameter S1.1 settings for thermostat ST2R.

type	description	S1.1
ST2R	Direct heating circuit pump (picture 31)	1
ST2R	Boiler control (picture 32)	1
ST2R	Heating circuit with mixing valve (picture 33)	1
ST2R	Gas boiler (picture 34)	1
ST2R	Electric floor heating (picture 35)	5
ST2R	Domestic hot water warming (picture 36)	6

ST2R default setting for parameter S1.1=1.

ST2R - direct heating circuit pump

Parameter S1.1=1.
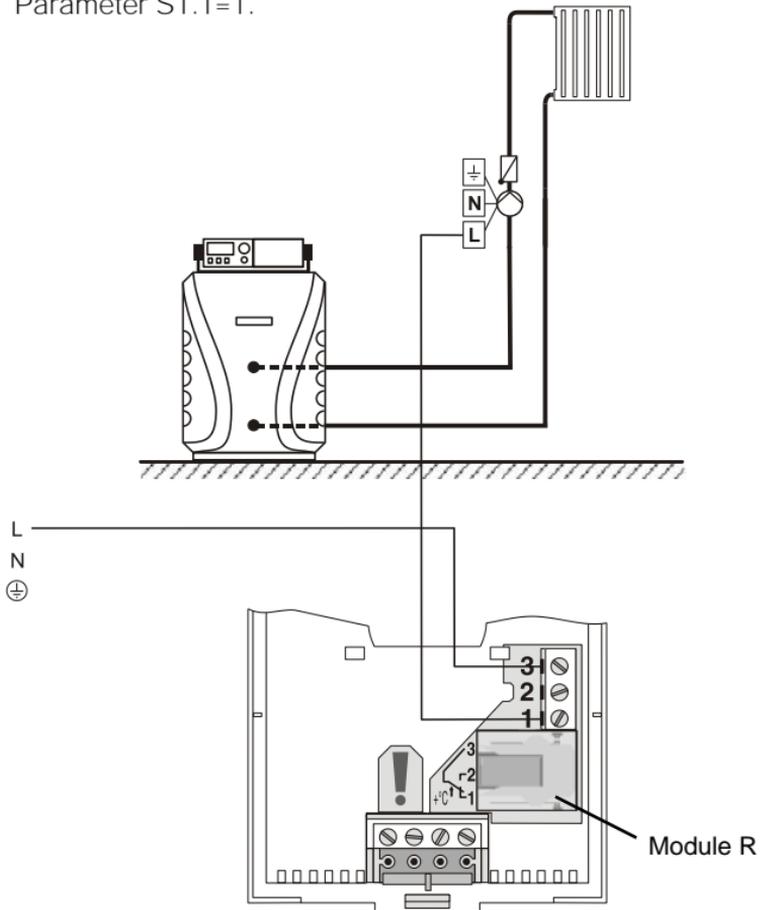
Picture 31
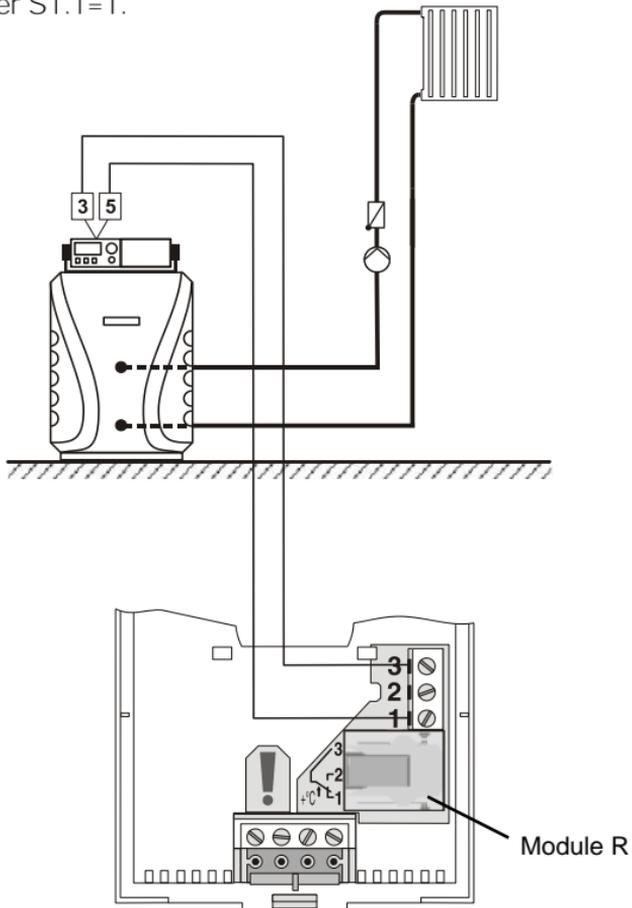
Parameter S1.1=1.

Picture 32

ST2R - heating circuit with mixing valve

Parameter S1.1=1.
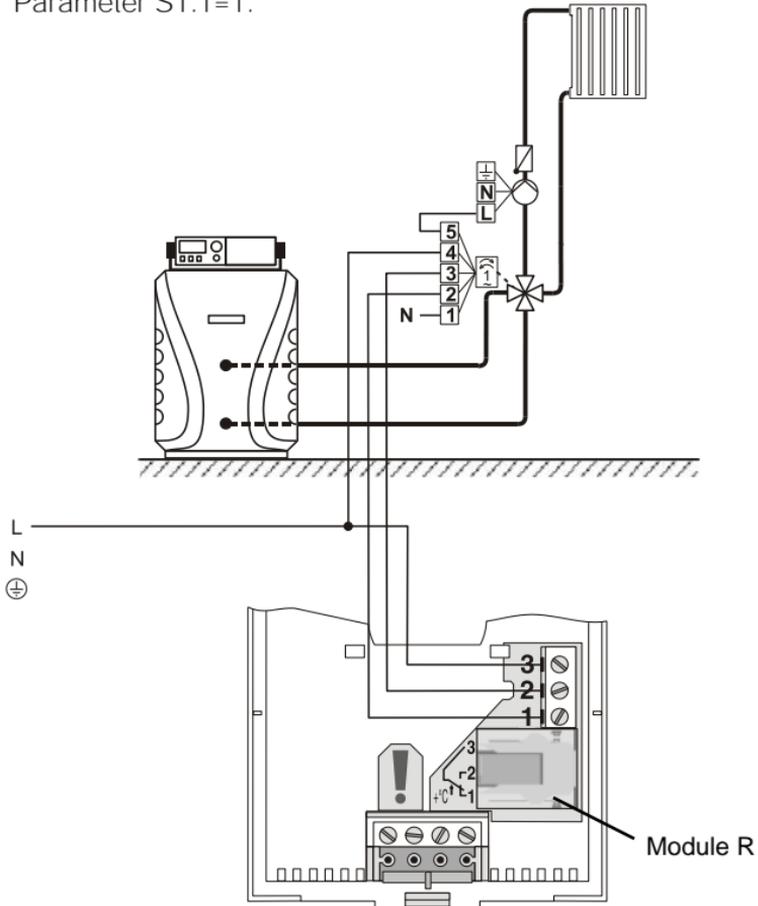
Picture 33

Module R

ST2R - gas boiler

Parameter S1.1=1.
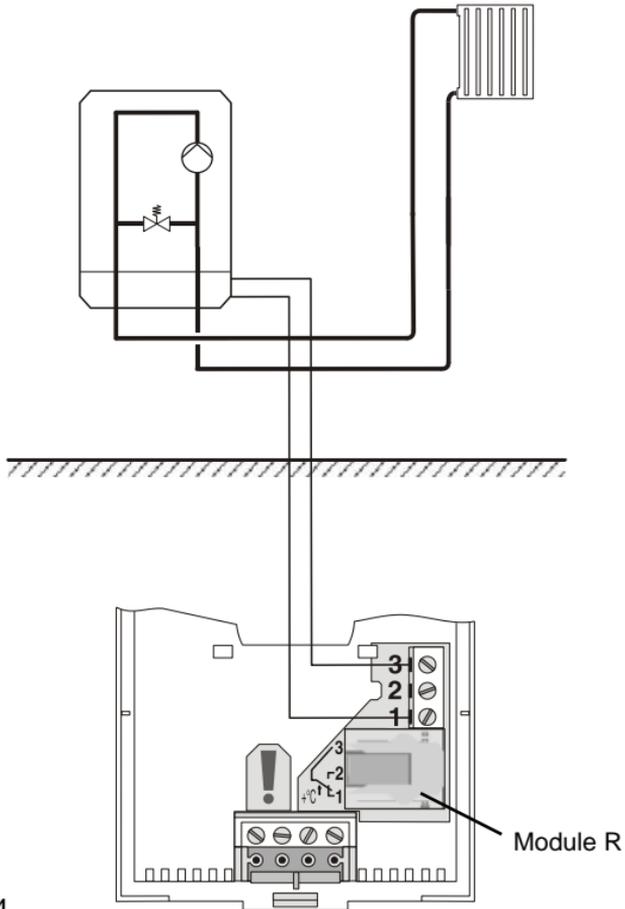
Picture 34

Module R

ST2R - electric floor heating

Parameter S1.1=5.
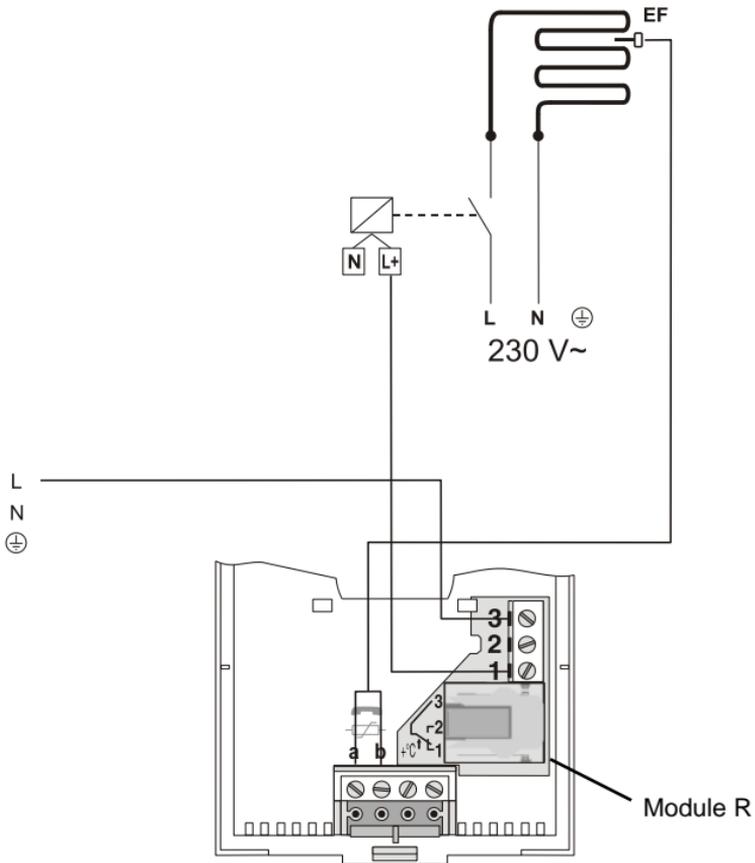
Picture 35

ST2R - domestic hot water warming

Parameter S1.1=6.

Picture 36

INSTALLATION MANUAL
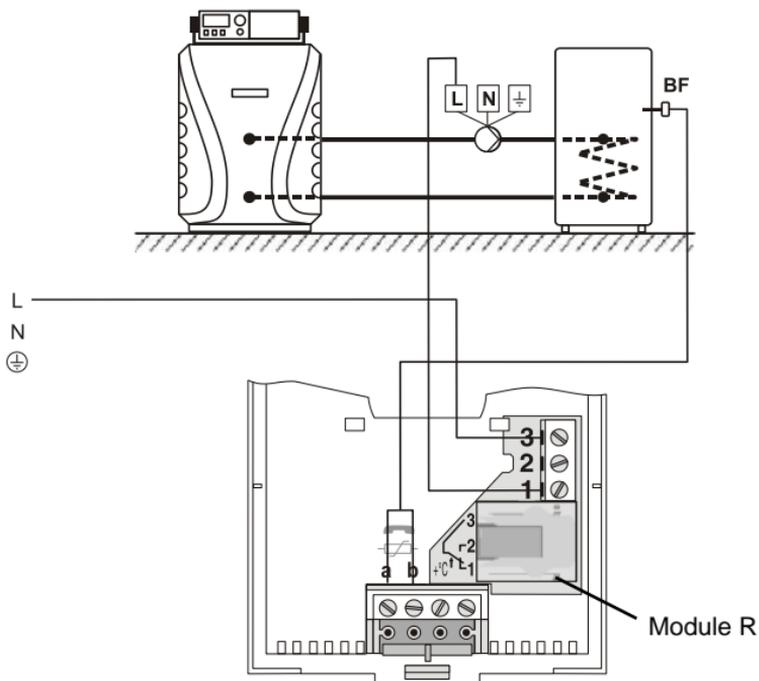
ST2RDR - ST2 with double relay module RDR

With room thermostat ST2RDR is possible to control:
- direct heating circuit
- direct heating circuit and domestic hot water warming
- indirect heating circuit - 3 point control
- D. h. w. warming
- direct heating circuit and boiler with built in domestic hot water
  storage tank (- direct heating circuit and cooling)

type	description	S1.1
ST2RDR	Direct heating circuit (picture 37)	1
ST2RDR	Direct heating circuit and domestic hot water warming (picture 38)	2
ST2RDR	Indirect heating circuit - 3 point control (picture 39)	3
ST2RDR	Direct heating circuit and boiler with built in domestic hot water storage tank [1] (picture 40)	4
ST2RDR	D. h. w. warming (picture 41)	6
STRDR	Direct heating circuit and cooling (picture 42)	9

🛈 ST2RDR default setting for parameter S1.1=2.

[1] Boiler is activated when there is need for domestic hot water
warming.
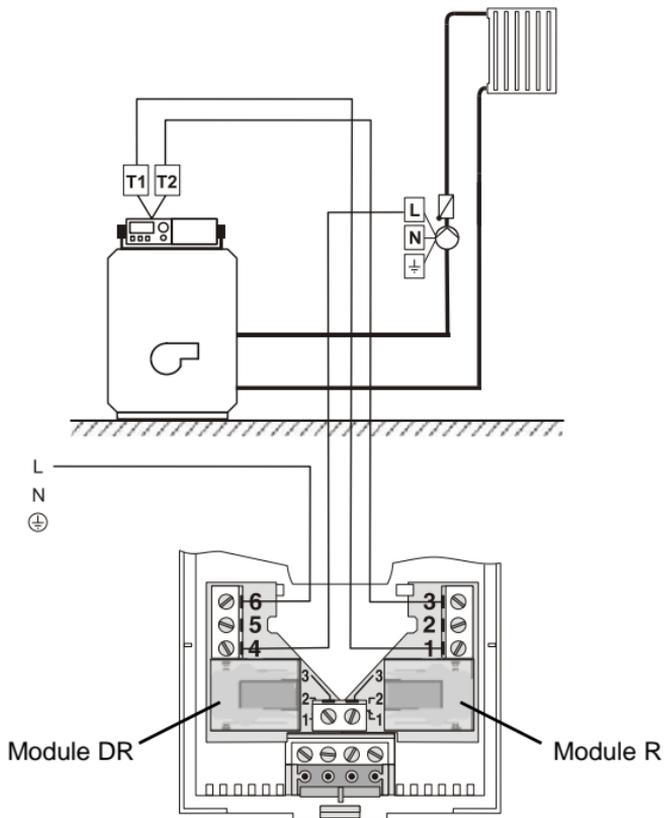
Parameter S1.1=1.

Picture 37

ST2RDR - direct heating circuit and domestic hot water warming

Parameter S1.1=2.

Module DR

Module R

Picture 38

ST2RDR - indirect heating circuit (3 point control)

Parameter S1.1=3.
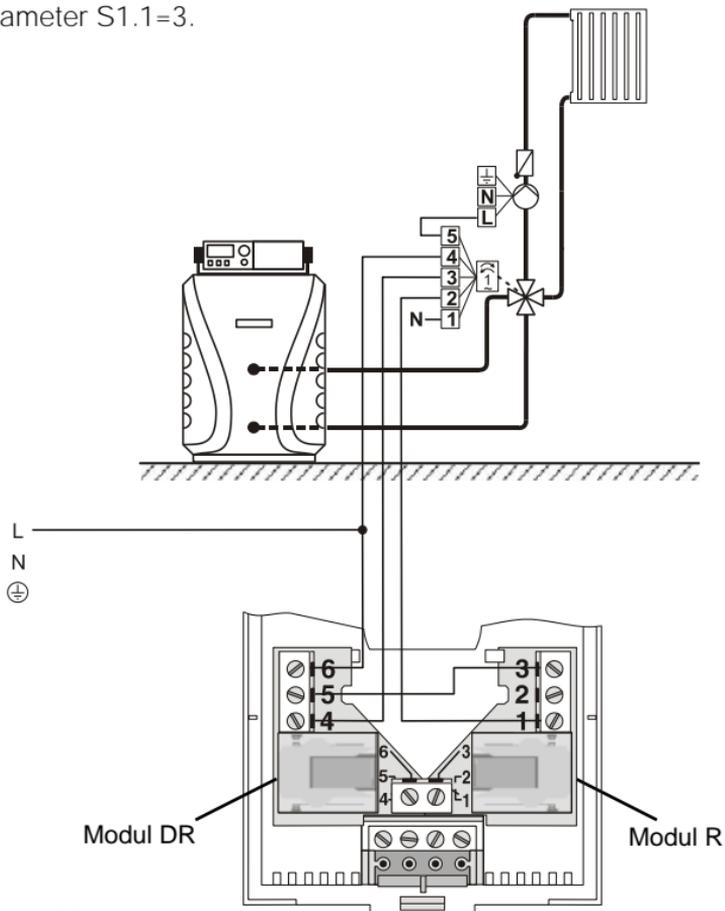
Picture 39

ST2RDR - direct heating circuit and boiler with built in d. h. w. storage tank

Parameter S1.1=4.
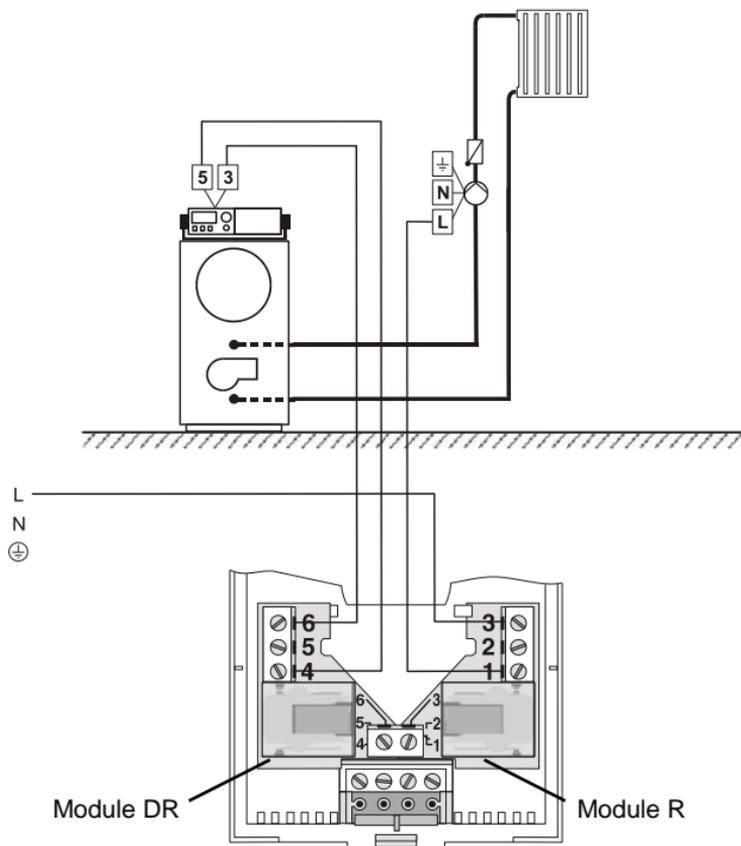
Module DR

Module R

Picture 40

ST2RDR - d. h. w. warming

Parameter S1.1=6.
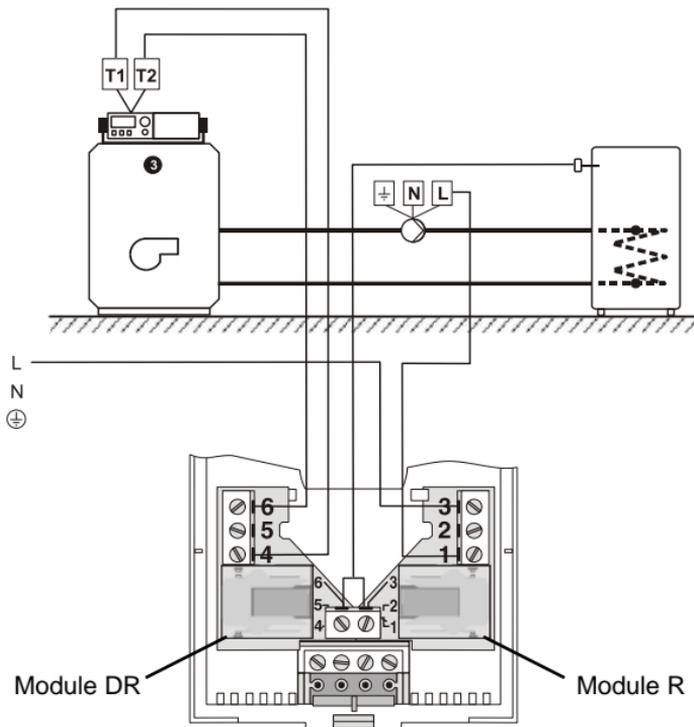
Picture 41

The requested d. h. w. temperature is set between 20 and 80 °C with the knob on the thermostat.

ST2RDR - direct heating circuit and cooling

Parameter S1.1=9.
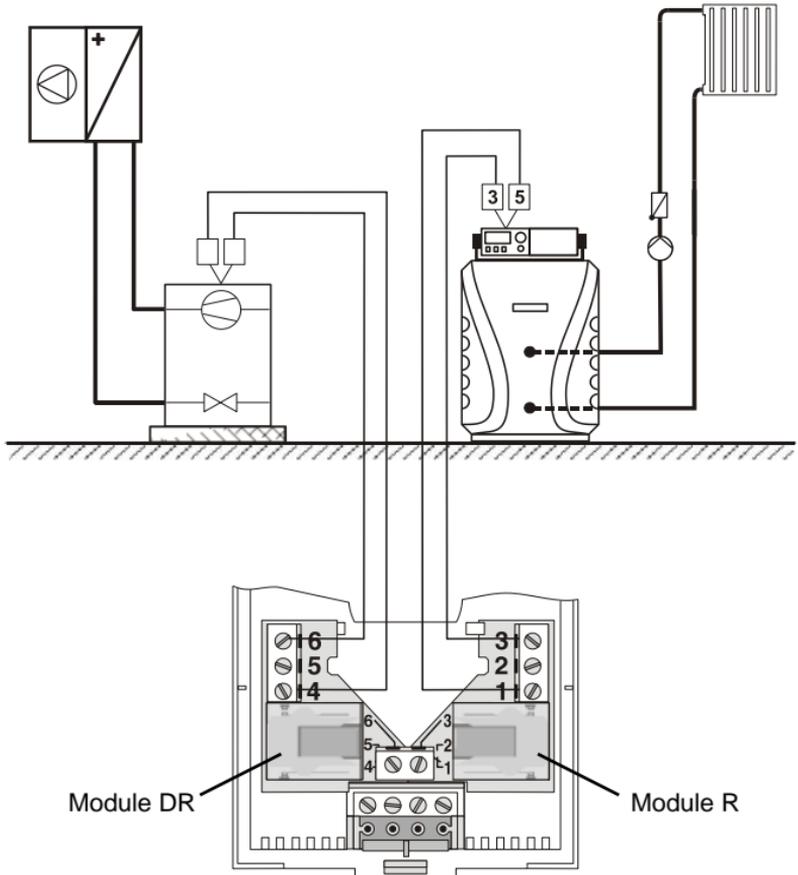
Picture 42

ST2TX - ST2 with module for wireless control TX

ST2TX enables wireless control for 9 different heating systems (see Table 2 on page 29). The receiver should be mounted in the near of controlled device.
Thermostat and receiver must have the same radio channel Nr. (setting P2.8, page 23).
Set the controlled heating system in service group S1.1 (page 24) (default factory setting is 1).

For connecting the RX20 or RX22 see Receiver manual.

ST2JV - ST2 with module for gas boilers JV

With room thermostat ST2JV is possible to control:
- flame power by Junkers gas boilers (picture 41)
- flame power by Vaillant gas boilers (picture 42)

Table bellow shows parameter S1.1 settings for thermostat ST2JV.

type	description	S1.1
ST2JV	Gas boiler Junkers (picture 41)	7
ST2JV	Gas boiler Vaillant (picture 42)	7

i ST2JV default setting for parameter S1.1=7.

ST2JV - gas boiler Junkers

Parameter S1.1=7.
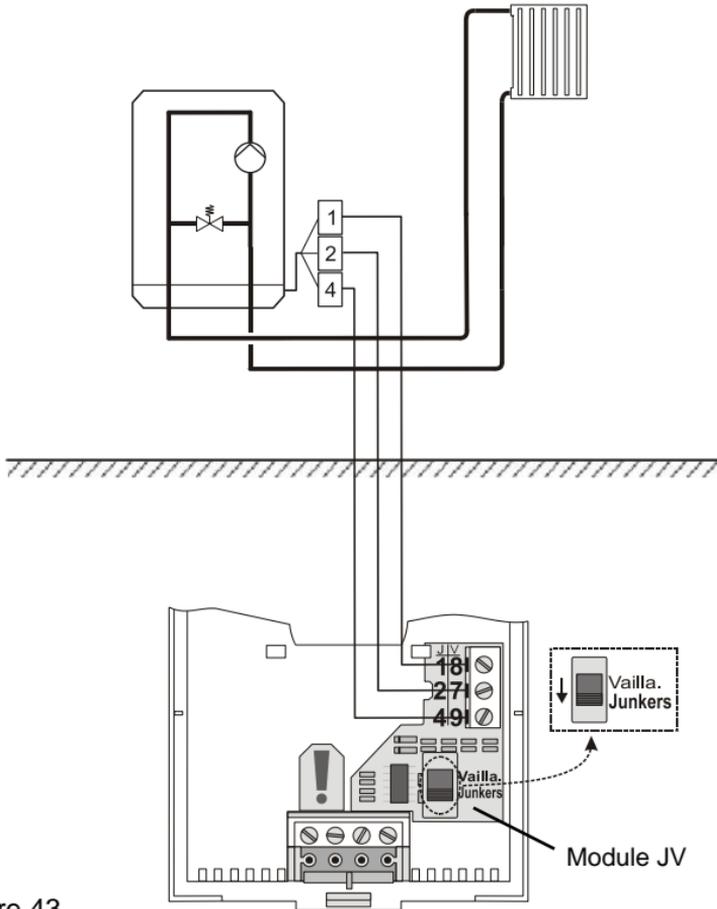
Picture 43

ST2JV - gas boiler Vaillant

Parameter S1.1=7.
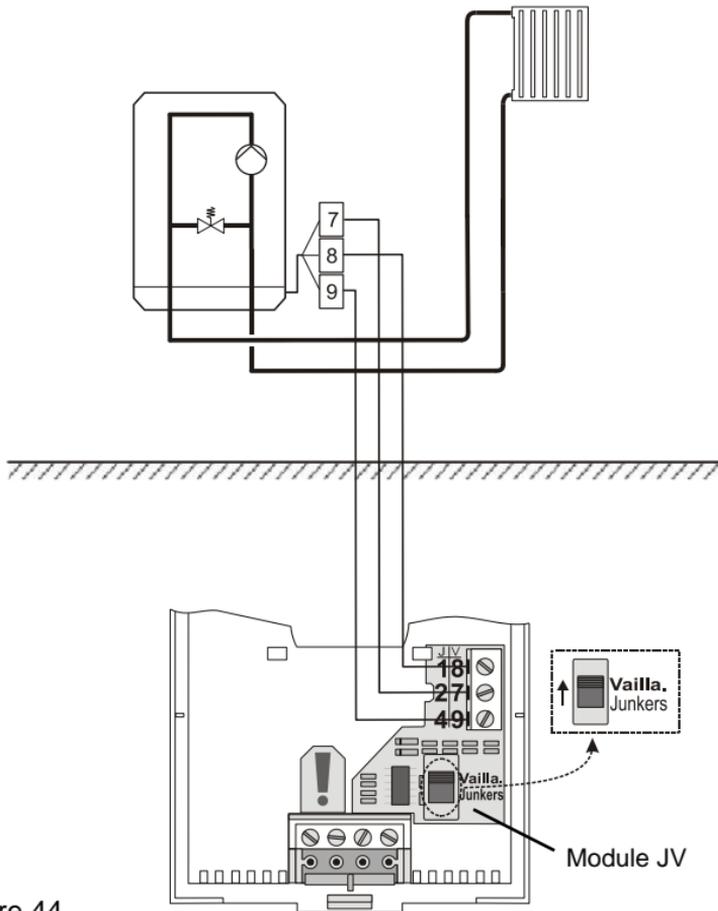
Picture 44

ST2JVDR - ST2 with module for gas boilers JV and auxiliary relay module DR

With ST2JVDR is possible to control:
- flame power by Junker gas boilers and domestic hot water circulation (picture 43)
- flame power by Vaillant gas boilers and domestic hot water circulation (picture 44)

type	description	S1.1
ST2JVDR	Gas boiler Junkers and domestic hot water circulation (picture 43)	8
ST2JVDR	Gas boiler Vaillant and domestic hot water circulation (picture 44)	8

Table: Parameter S1.1 value for ST2JVDR.

ℹ️ ST2JVDR default setting for parameter S1.1=8.

ST2JVDR - Junkers gas boiler and domestic hot water circulation
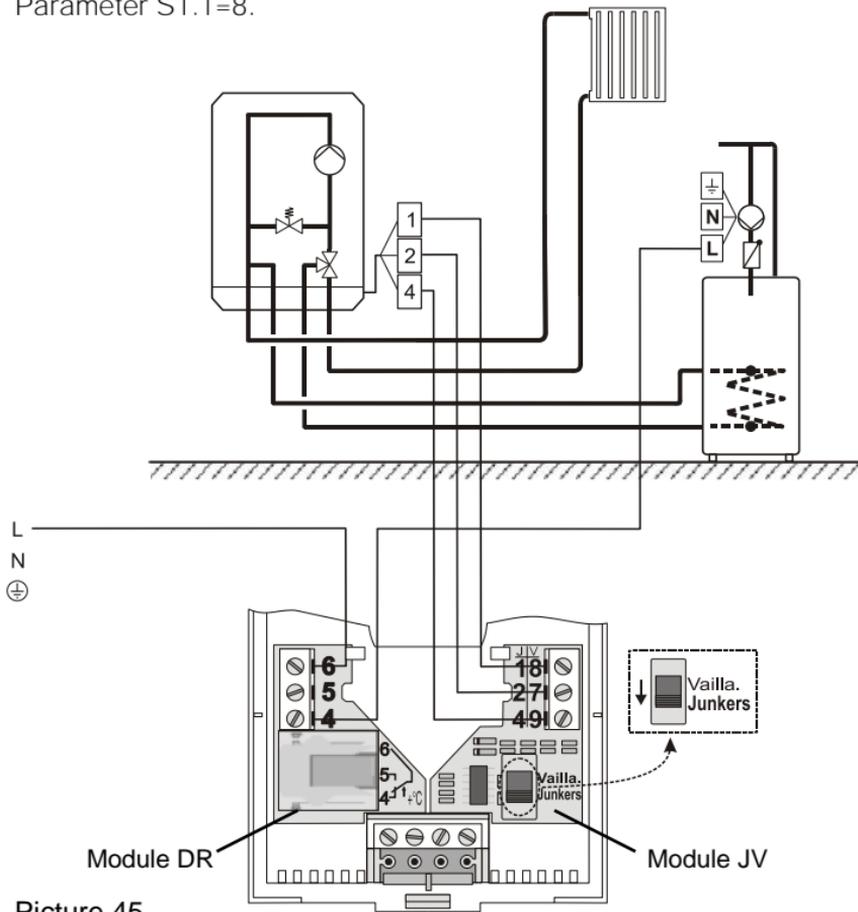
Parameter S1.1=8.

Picture 45

ST2JVDR - Vaillant gas boiler and domestic hot water circulation

Parameter S1.1=8.
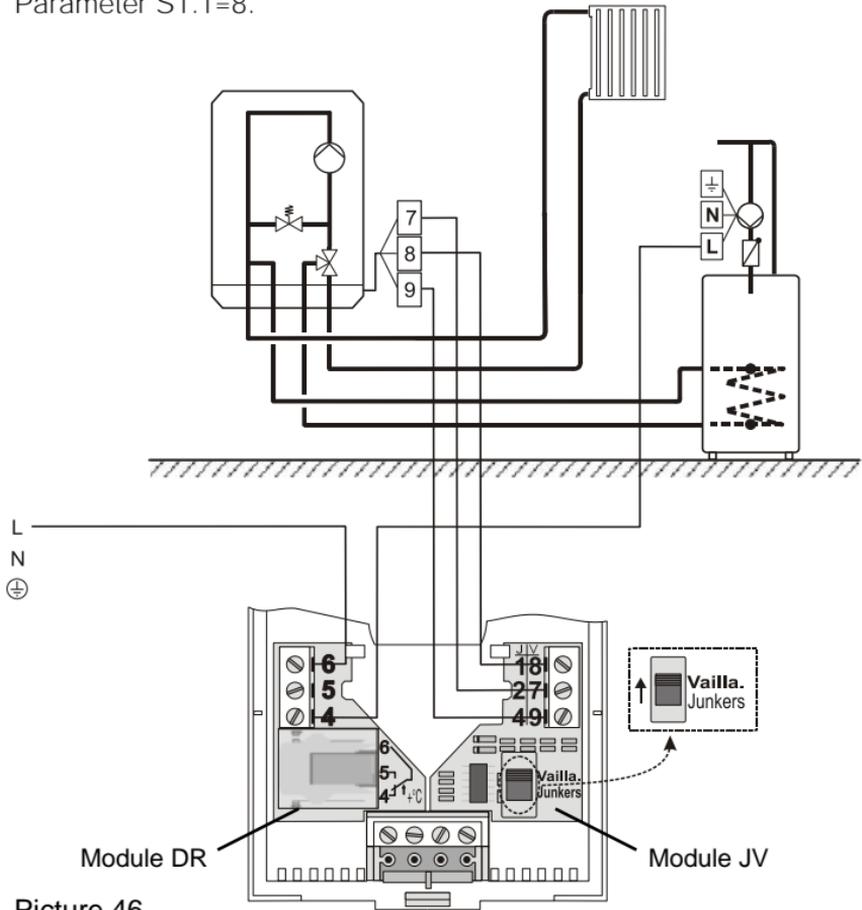
Picture 46

Connecting the Telewarm

Connect Telewarm G1-D or Telewarm G44 into the terminals a and b on the ST2 wall plate (picture 45). Before connecting into terminals a and b, remove the blank plastic bridge. *To learn more about connecting the Telewarm on electric and telephone network see User manual for Telewarm.*

ⓘ *If auxiliary relay module (DR), wireless module (TX) or auxiliary temperature sensor are installed, connection of Telewarm isn't possible.*

Connecting the auxiliary temperature sensor

Always connect the auxiliary temperature sensor into the connector terminals a and b on wall ST2 plate (Picture 45). Set the parameters for this sensor in service group S1.
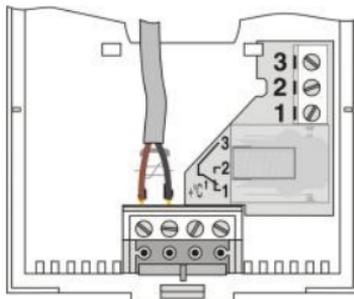
Picture 45

ⓘ *If auxiliary relay module (DR), remote control device or wireless module (TX) are installed, connection of auxiliary temperature sensor isn't possible.*

ⓘ By room thermostat ST2RDR the additional sensor is connected in connectors 7 and 8.

On The DD2 can be connected only MURATA type sensors. This sensors are: outdoor sensor AF/M, room sensor PS10-12/M , immersion sensor TF/M.

Error reports

Sensor malfunction
If auxiliary temp. sensor is in short circuit, the display writes out Er-.
If the auxiliary sensor is disconnected, the display writes out Er_.

Technical data

Model:	ST2
Operation mode:	P - regulator (ON / OFF), sliding mode or PI - controller (3 point control)
Power supply:	2 batteries LR03, size AAA
Relay output:	230 V ~ / 6 (3) A
JV module:	24 V output
Radio module:	433.92 MHz, modulation OOK
Consumption:	I= 0,022 mA; P= 0,066 mW
Temp. sensor type:	Murata NTC
Degree of protection:	IP 30 by SIST EN 60529
Safety class:	II by SIST EN 60730-1
Housing:	ABS thermoplast, white
Dimensions (l × w × h):	72 × 32 × 112 mm
Weight:	150 g

Conformity with standards and directives

Seltron d.o.o. declares, with full responsibility, that room thermostat ST2 meet the requirements and rules for the electrical equipment, designed to use within certain voltage levels (EC directive for low voltage (LVD) 73/23 EEC, 93/68 EEC) and requirements and rules for electro-magnetic compatibility (EMC) (EC directive for electro-magnetic compatibility (EMC) 89/336 EEC, 92/31 EEC, 93/68 EEC, 99/5/EEC).

Product description: Room thermostat ST2
Model: ST2R, ST2RDR, ST2TX, ST2JV, ST2JVDR

Applied standards:
SIST EN 60730-1:1995, SIST EN60730-2-9:1997,
SIST EN 50081-1:1995, SIST EN 50082-1:1995,
SIST EN 55014-1:2001, SIST EN 55014-2:1997,
SIST EN 301 489-3: 2000, SIST EN 300 220-3:2000,
SIST EN 60950:1992 (completion A:1993, A2:1993,
A3:1995, A4:1997).

$C\epsilon$

Guarantee

This product complies with all the regulations and declared characteristics. We grant 2 years guarantee on the product, commencing on the date of purchase. We will eliminate any defects in the product resulting from faults in materials, workmanship, malfunctions or imperfection. We retain the right to repair or completely replace the product as we may choose.

This guarantee does not cover damages as a result of improper use, normal wear and defects that have no effect on value, functionality and operation safety of the product. This guarantee becomes void if repairs are done by unauthorized person or original spare parts are not used.

For service within the guarantee period, hand or send the complete product, together with the sales receipt to authorised service or dealer. This guarantee is valid in every country, where the product was supplied by company SELTRON or its authorised dealer.

Disposal of Old Electrical & Electronic Equipment

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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V1.1

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