

INSTALLATION

ADJUSTMENT

SERVICE MODULE ROOM
CONTROL **RRG** (SW 1.4)
for PARAMOUNT and
EUROCONDENSE 2

Important !

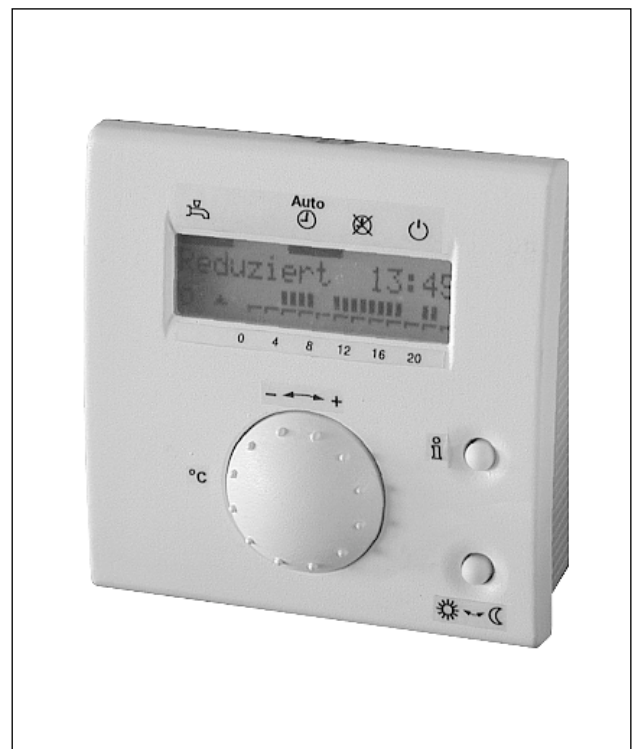
The RRG service module is designed for service engineers who wishes to adopt the parameters of PARAMOUNT or EUROCONDENSE 2 boilers.

Electrical installation:

The work must be carried out by a qualified electrician.

Putting into service for the first time:

The adjustment details and settings in these instructions and the adjustment details and settings in the boiler manual must be taken into account.



CONTENTS

Content	2
Use	2
Scope of delivery	2
Service	3
Setting table for service engineer	4
Setting table, OEM level	7
List of error codes	10
Settings for spare controls BMU	15

Use

The RRG service module is a programming tool for service engineers. With the RRG service module, parameters of the service engineer level (see table 1) and the OEM level (table 2) of the control BMU (LMU 64.00XA100) can be modified.

To avoid malfunction, please proceed very carefully!

Scope of delivery

- RRG service module
- service cable

Electrical connection of RRG service module

- Open control door of the boiler. Turn the cover of the service plug (2) 90° to the left and take it out.
- Plug the service cable into the service plug
- After finishing programming, put the cover of the service plug back and fix it with a 90° turn to the right.

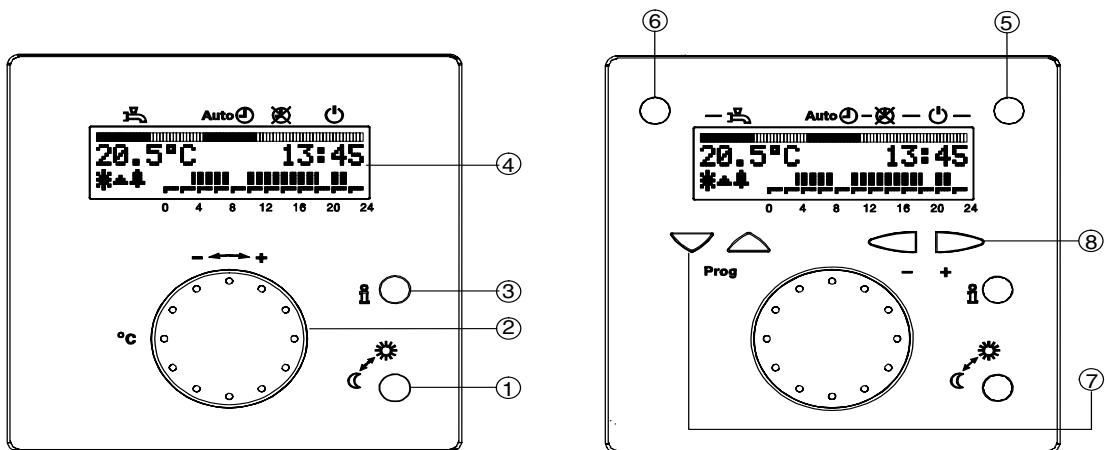
Programming

With the boiler being switched on, after some seconds the info-level appears in the display of the RRG service module. For selecting and programming of the function levels see tables 1 and 2.

Service module RRG

The service module has two display levels:

- Info level
- Parameter level / programming level



1. Operator level 1 – 4

2. Operating level 5 – 8

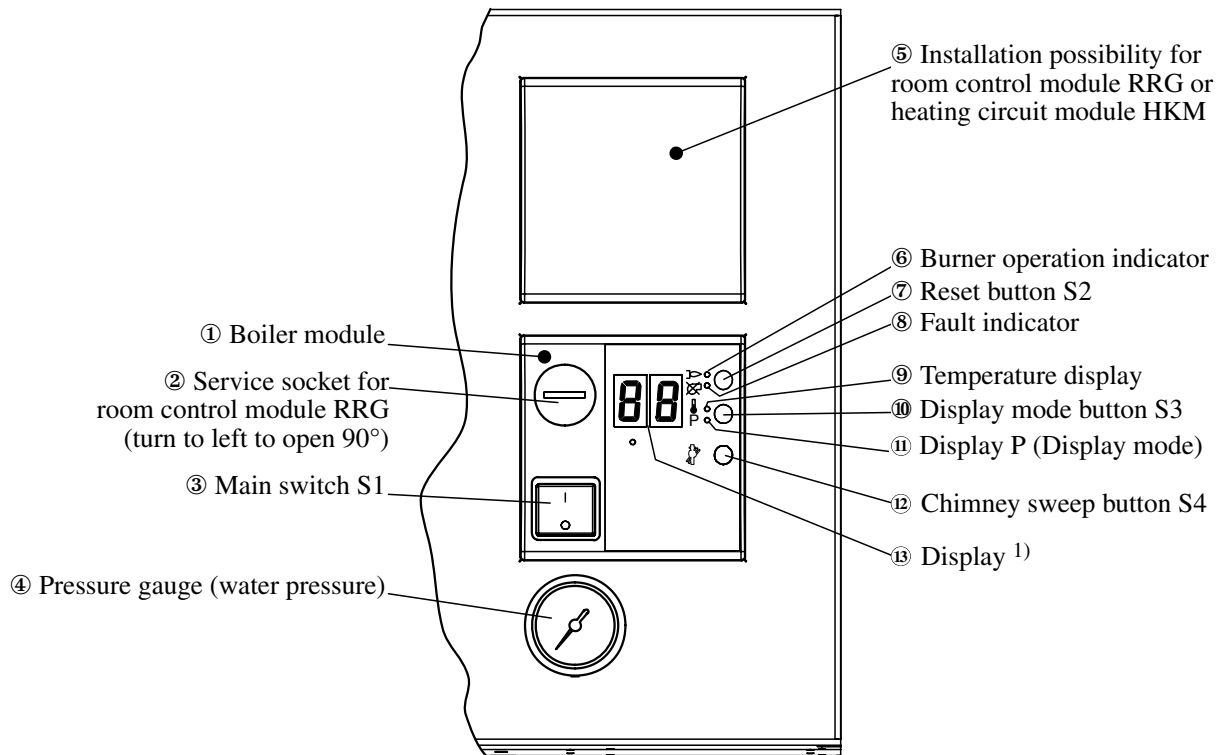
The buttons are not accessible until the flap has been opened.

Legend:

- ① Presence button
- ② Temperature knob
- ③ Info button
- ④ Display

- ⑤ Operating mode button
- ⑥ Button DHW
- ⑦ Program buttons
- ⑧ Adjusting buttons (plus and minus)

Fig. 1 Control panel



120-391070.3

SETTING TABLE FOR SERVICE ENGINEER

Table 1: Parameter settings of the service engineer level of the boiler control BMU
(with normal room control RRG or service module RRG)

Proceeding for changing parameters:

- Press "info" button. Then press + / ▼ or + / ▲ until the display shows "Initialisation BMU parameters ".
You are now in the user's level (where only parameters with "X" are displayed)
- Select service engineer level: Press both buttons ▼ and ▲ more than 3 sec. until the display shows "Initialisation BMU service engineer". You are then in the service engineer's level
- Select parameter by pressing the program buttons ▼ or ▲.
- Set parameter by pressing + or -.
- The new value is taken over by selecting the next or previous parameter via ▼ or ▲ button.
- To leave the programming level, press the info button.

Display of RRG

Param. No.	Parameter name	user level	Function	Factory setting
501	TrSmin		Min. room temperature setpoint	10°C
502	TrSmax		Max. room temperature setpoint	30°C
503	TkSmin		Min. boiler temperature setpoint	20°C
504	TkSmax		Max. boiler temperature setpoint	85°C
505	TkSnorm		Boiler Temp. setpoint at minimal outdoor temp.	75°C²⁾
506	TvSmin		Min. temperature setpoint for heating circuit HK 2	20°C
507	TvSmax		Max. temperature setpoint for heating circuit HK 2	70°C
510	TuebBw		Boiler overheat temp. referring to DHW temperature	18 K
511	TkSfrostEin		Outdoor temp to switch on boiler frost protection	5°C
512	TkSfrostAus		Outdoor temp to switch off boiler frost protection	10°C
514	TuebVor		Boiler overheat temp., referring to mixer circuit temperature	10 K
516	THG	X	Summer/winter changeover temp.	20°C
517	dTbreMinP		Max. diff. between flow and return temp. where the burner anti cycling time (see param. 545) is ignored	30 K
519	TiAussenNorm		Minimal outdoor temp	-20°C
520	dTrAbsenk	X	Decrease of room temp. at night when a room thermostat is connected	10 K
521	dTkTrNenn		Setpoint for diff. between flow and return temp. at minimal outdoor temp (TiAussenNorm)	20 K¹⁾
523	SdHzEin		Burner switch on temp. diff. in heating mode	4 K ³⁾
524	SdHzAusMin		Min. burner switch off temp. diff. in heating mode	5 K ³⁾
525	SdHzAusMax		Max. burner switch off temp. diff. in heating mode	5 K ³⁾
526	SdBwEin1		Burner switch on temp. diff. in DHW mode, sensor 1	4 K ³⁾
527	SdBwAus1Min		Min. burner switch off temp. diff. in DHW mode, sensor 1	2 K ³⁾
528	SdBwAus1Max		Max. burner switch off temp. diff. in DHW mode, sensor 1	2 K ³⁾
529	SdBwEin2		Burner switch on temp. diff. in DHW mode, sensor 2	3 K ³⁾
531	SdBwAus2Max		Max. burner switch off temp. diff. in DHW mode, sensor 2	3 K ³⁾
532	Sth1	X	Steepness of heating characteristics, heating circuit 1	18 ²⁾
533	Sth2	X	Steepness of heating characteristics, heating circuit 2	15 ²⁾
534	DtR1	X	Offset room temp. setpoint, heating circuit 1	0 K
535	DtR2	X	Offset room temp. setpoint, heating circuit 2	0 K
536	NhzMax		Fan speed at nominal heat input	see tab. 4
537	NqmodNenn		Pump stage at nominal heat input	30 ¹⁾
538	NqmonMin		Min. pump stage in heating mode	1)
539	NqmonMinBW		Min. pump stage in DHW mode (layer tank only)	1)
541	PhzMax		Fan modulation (PWM) at nom. heat input, heating mode	see tab. 4
542	PminHuKw		Min. heat output in kW	see tab. 4
543	PmaxHuKw		Max. heat output in kW	see tab. 4

Display of RRG				
Param. No.	Parameter name	user level	Function	Factory setting
544	ZqNach		Pump overrun, max. 218 min.	10 min.
545	ZbreMinP		Minimum burner anti cycling time (break time)	120 s ³⁾
546	ZbreMinL		Minimum burner run time	0 s
547	ZReglVerz		Time after burner start with fixed heat input (see param. 598)	60 s ³⁾
551	Kon		Constant for rapid cooldown (heating system without room temp. influence)	4
552	HydrSys		Hydraulic system	2
553	KonfigHks		Assignment of HKM or RRG to heating circuits	21
555	KonfigRg1		Setting codes, see boiler manual for details	00110000
556	KonfigRg2		Setting codes	00000000
557	KonfigRg3		Setting codes	00000100
558	KonfigRg4		Setting codes, see boiler manual for details	01000000
561	KonfigRg7		Setting codes, see boiler manual for details	00001110
562	pH2Omin		min. water pressure	not activated
563	pH2Omax		max. water pressure	not activated
584	ZKickFkt		Time for pump "kick"	5 s ³⁾
596	ZeitAufZu		Time for opening/closing time of the mixing valve in heating circuit 2 (with CIM); 30 to 873 s	150 s
598	LmodRegVerz		Heat input during ZreglVerz (param. 547)	25 % ³⁾
604	LPBKonfig0		Setting codes for bus module CIB	00010000
605	LPBAdrGerNr		LPB appliance address of BMU	1 - -
606	LPBAdrSegNr		LPB segment address of BMU	0 - -
614	KonfigEingang		Programmable input F2: 0 = standard (no function); 1 =modem function; 2 =modem function, "neg. logic"; 3 =door veil	0
615	KonfigAusgang		Programmable exit M5 0 = Standard (no function); 1 =message exit; 2 =alarm exit; 3 =normal operation; 4 =external transformer; 5 =M2 (Q2Y2); 6 =DHW circulation pump; 7 =door veil; 8 =header; 9 =RegC1; 10 =Function K 2; 11 =DHW complete loading; 12 =analogue threshold	0
618	KonfigEingang1R		Programmable input 1 on relay module CIR 0 =Standard (no function); 1 =modem fct.; 2 =modem function, "neg. logic"; 3 =door veil; 4 =set temperature setpoint externally; 5 =Set heat output setpoint externally; 6 =header sensor	0
619	KonfigAusgang1R		Programmable output 1 on relay module CIR 0 = Standard (no function); 1 =message exit; 2 =alarm exit; 3 =normal operation; 4 =external transformer; 5 =M2 (Q2Y2); 6 =DHW circulation pump; 7 =door veil; 8 =header; 9 =RegC1; 10 =Function K 2; 11 =DHW complete loading; 12 =analogue threshold	0
620	KonfigAusgang2R		Programmable output 2 on relay module CIR	0
621	KonfigAusgang3R		Settings like param. 619 Programmable output 3 on relay module CIR	0
622	TAnfoExtMax		Settings like param. 619 Max. value of heat demand in case of external temperature setting (i.e. param. 618 = "4")	100°C
623	PAnfoExtSchwelle		Threshold of analogue signal (% of max. value)	5%

SETTING TABLE FOR SERVICE ENGINEER

Display of RRG				
Param. No.	Parameter name	user level	Function	Factory setting
700	Stoer1		First value of error code counter	display ⁵⁾
701	StrPn1		First value of error phase	display ⁵⁾
702	StrDia1		First value of diagnosis code b0	display ⁵⁾
703/706	Stoer1/Stoer2/		2nd / 3rd /4th / 5th value of error code counter	
709/712	Stoer3/Stoer4			
704/707	StrPn1/StrPn2		2nd / 3rd /4th / 5th value of error phase	display ⁵⁾
710/713	StrPn3/StrPn4			
705/708	StrDia1/ StrDia2		2nd / 3rd /4th / 5th value of diagnosis code b0	display ⁵⁾
711/714	StrDia3/ StrDia4			
715	Stoer_akt		Current value of error code counter	display ⁵⁾
716	StrPn_akt		Current value of error phase	display ⁵⁾
717	StrDia_akt		Current value of diagnosis code b0	display ⁵⁾
718	BetrStd		Hours counter burner on/off	display (h)
719	BetrStdHz		Hours counter, heating mode	display (h)
720	BetrStdBw		Hours counter, DHW mode	display (h)
721	BetrStdZone		Hours counter, zone	display (h)
722	InbetrSetz		No. burner starts	display
723	Pmittel		mean boiler input (kW)	display (kW)
724	MmiStatus		Current setting of summer/winter changeover of boiler	display
725	OT_SwVersLMU		Parameters level	display
755	IonStrom		Current ionisation current	display

Any displayed parameter not in the list is not relevant for the operation of the boiler.

1) With modulating pump only
 2) To be adopted to the heating system
 3) Change only when absolutely necessary
 4) Do not change parameter
 5) See list of error codes table 8, p. 24

***Electrical installation,
 general information***

Mains voltage: 1/N/PE, AC 230 V 50 Hz
 This work must be carried out by a qualified electrician.

Bus or sensor cables

Bus or sensor cables do not conduct mains voltage but safety extra-low voltage instead. These cables should not be run parallel with mains cables (interference signals).

Permissible cable lengths for all sensors:

Cu cable to	20 m	0.6 mm diameter
Cu cable to	50 m	1 mm ²

***Room regulator device,
 technical data***

OPEN-Therm bus
 - connection – 2-wire interchangeable
 Cable length max. 50 m
 Cable resistance max. 2 x 5 ohm
 Power consumption 30 mW
 Protective system IP 40

Standards and specifications

CE conformity	
EMC directive	89/336/EEC
- interference immunity	EN 50082-1, EN 50082-2
- emissions	EN 50081-1, EN 50081-2
Low-voltage directive	73/23/EEC
- electrical safety	EN 60730-1, EN 60730-2-9

Fastening in strain relief devices¹⁾

All electrical cables must be run through the drilled holes in the boiler bottom and be fastened using the enclosed cable screw connections (with integrated strain relief devices). In addition, the cables must be fastened in the strain relief devices of the switch panel and then be connected according to the circuit diagram (Fig. 2).

Protective system IPX4D

In order to fulfil the requirements of the protective system IPX4D and due to the specified air-tight sealing of the air chamber, the cable screw connections must be tightened so that the sealing rings do not seal off the cables too tightly.

Contact protection

To ensure contact protection, the parts of panelling to be screwed together must be fastened again using the corresponding screws.

Putting into service

During the putting into service procedure, the operating instructions of the condensing boiler must be taken into account.

¹⁾ See installation manual of the boiler in question

SETTING TABLE, OEM LEVEL

Table 2: Parameter settings of the OEM level of the boiler control BMU
(with service module RRG only)
Only parameters that are not in tab. 1 are shown.

Proceeding for changing parameters:

- Press "info" button. Then press + / ▼ or + / ▲ until the display shows "Initialisation BMU parameters ". You are now in the user's level (where only parameters with "X" are displayed)
- Select OEM level: Press both buttons 6 and 5 more than 9 sec. until the display shows "OEM code". Enter OEM code ▼ / + / ▲ / - / +. You are then in the service engineer's level
- Select parameter by pressing the program buttons ▼ or ▲.
- Set parameter by pressing + or -.
- The new value is taken over by selecting the next or previous parameter via ▼ or ▲ button.
- To leave the programming level, press the info button.

Display at RRG Param. no.	Parameter name	Function	Factory setting	New setting
513	TqNach	Switch off temperature for pump overrun (after DHW prep.)	72°C	cannot be changed
515	TkMax	Max. boiler temperature (Temperature guardian)	94°C	
518	TgradMax	Max. boiler temp. increase (0=free modulation)	0 K/min	
522	dTkTrMax	Max. temp. difference between flow and return temperature	25 K ¹⁾	
540	QmodDrehzStufen	Max. no. of pump stages of modulating pump (ask pump manufacturer)	30 ¹⁾	
548	QmodMin	Min. modulation of modulating pump	3% ¹⁾	
549	QmodMax	Max. modulation of modulating pump	85% ¹⁾	
550	KtAbtastDt	Sensing factor of temperature difference control (modulating pump only)	10	
554	KonfigRg0	Setting code: Show error code or not for sensors Anx	00100011	
559	KonfigRg5	Setting codes	00000111	
560	KonfigRg6	Setting codes	00100000	
564	FoerderMax	Max. pump pressure head	5,9 m	
565	FoerderMin	Min. pump pressure head	0,6 m	
566	KpBw	Proportional value for DHW prep. control	0,5	
567	TvBw	Hold-back time, DHW prep. control	1 s	
568	TnBw	Reset time, DHW prep. control	100 s	
569	KpHz1	Proportional value for heating circuit 1 control	0,5	
570	TvHz1	Hold-back time for heating circuit 1 control	1 s	
571	TnHz1	Reset time for heating circuit 1 control	100 s	
574	TnHz2	Reset time for heating circuit 2 control	90 s	
575	KpDt	Proportional value for Dt control	0,5 ¹⁾	
576	TvDt	Hold-back time for Dt control		
577	TnDt	Reset time for Dt control		
578	ZAbtastK	Sensing time of the temperature control (heating, DHW)	1 s	
584	ZKickFkt	Time for pump "kick"	5 s ³⁾	
585	ZGebNach	Max. overrun time in case of exceeding temp. stat	5 min	
586	Klambda	Filter time for dT control	0,99 ¹⁾	
587	KonfigRg8	Setting codes for instantaneous water heater	00000000	
588	ZsdHzEnde	Time to reduce switch off difference to SdHzAusMin	10 min	
589	ZsdBwEnde	Time to reduce switch off difference to SdBwAusMin	3 min	
590	ZsperrDynAusSd	Blocking time of dynamic switch off difference after a change between DHW and CH	0 s	
592	TaAbschalt	Flue gas temperature threshold where boiler switches off	85°C	
593	TaBegr	Flue gas temp. threshold where burner starts modulating down	80°C	

Display at RRG

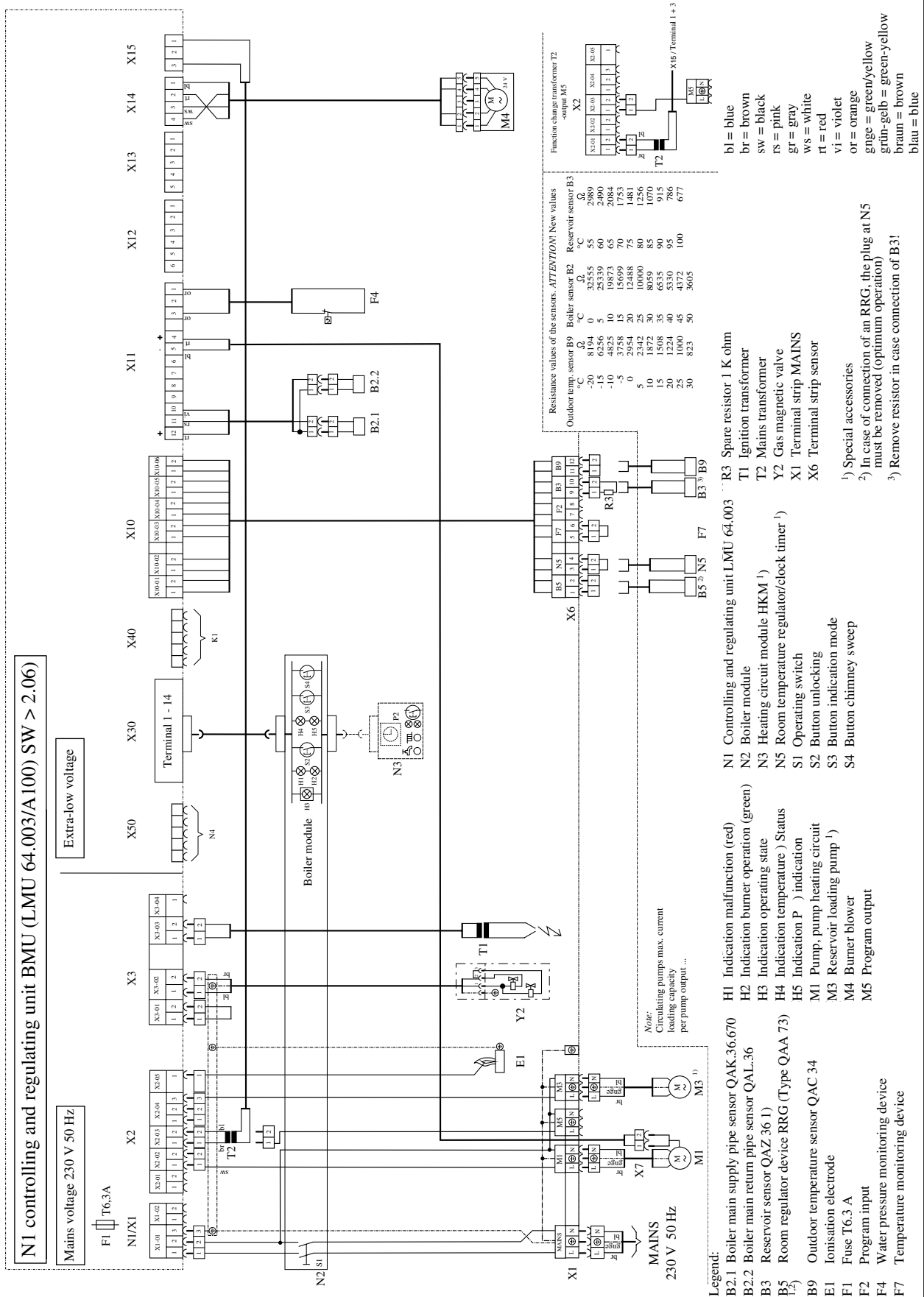
Param. no.	Parameter name	Function	Factory setting	New setting
597	XpHz2	Proportion band width for control of heating circuit 2	24 K	
608	LmodZL_QAA	Fan modulation during burner ignition	see table 4	
609	LmodTL_QAA	Fan modulation in low load	see table 4	
610	LmodVL_QAA	Fan modulation in full load	see table 4	
611	N_ZL_QAA	Fan speed during burner ignition	see table 4	
612	N_TL_QAA	Fan speed in low load	see table 4	
613	N_VL_QAA	Fan speed in full load	see table 4	



1) With modulating pump only

**Any displayed parameter not in the list is not relevant for the operation of the boiler.
Do not change these parameters except on advice through the manufacturer .**

Gas-fired condensing boiler

Fig. 2 Circuit diagram



- D.H.W. operating mode : The service D.H.W. mode is switched on and off independent of the other operating modes of the device by pressing the D.H.W. operating mode button on the operator interface panel. D.H.W. heating ON is indicated with a bar under the service water symbol . The D.H.W. is then automatically heated according to the internal settings. D.H.W. heating OFF is indicated by the deleted bar under the service water symbol.

Note

The selected operating mode is indicated with a bar under the symbols.

²⁾ also applies to heating circuit 2 if available.

Presence button (1)

With the presence button, you can intervene manually in the heating program.

Current operating mode	Effect of the presence button
Automatic mode	The heating circuit operating level is temporarily switched over from nominal to reduced or from reduced to nominal. This remains valid until the next level switchover point of the time switching program. . The change made after pressing the presence button is represented with a time bar as well as in the level indication in the display. dargestellt. Depending on the selection of the function in each case, the effect refers to HK1+2 or only to HK1.
Continuous mode	The heating circuit operating level is switched over from nominal to reduced or from reduced to nominal.
Service water	Presence button has no effect on the service water heating.
Holiday program	Presence button has no effect.
Summer mode	Presence button has no effect after an automatic summer switchover.

Temperature knob (2)

With the temperature knob, the desired room temperature setpoint value is adjusted for the nominal operating mode. This is achieved by turning the temperature knob toward + or -. When you start to turn the knob, the current room temperature value is indicated and then re-adjusted as you continue to turn the knob.

Note

Before using the rotary knob to make a temperature re-adjustment, you should adjust the thermostat valves to the desired temperature first. Renewed correction should not be carried until the temperature has adjusted to the new setting.

Temperature sensor in room regulator device

The temperature sensor installed in the room regulator device is active only if the room influence function at the room regulator device has been activated (see adjustment chart – heating expert, program no. 75).

LIST OF ERROR CODES

Table 3: List of error codes of the internal BMU diagnosis code b0 (param. 700 to 717)

Code No.	Error	Reason	Factory
1 to 76	Hardware faults	change control	
77 to 78	- not available -		
79	Air pressure switch closed		Safety switch off, no start ¹⁾
80	Air pressure switch open		Safety switch off, no start ¹⁾
81	Air pressure switch does not open when burner switches off		Reset ¹⁾
82	LP does not close		Reset ¹⁾
83	Fan speed for ignition was not reached	Fan defective?	Reset ¹⁾
84	Max. fan speed exceeded	Fan defective?	Safety switch off, no start. ¹⁾
85	Fan slower than min. fan speed	Fan defective?	Safety switch off, no start. ¹⁾
86	Fan slower than min. fan speed	Fan defective?	Safety switch off, no start. ¹⁾
87	Fan slower than min. fan speed	Fan defective?	Reset. ¹⁾
88	Internal fault		Reset ¹⁾
89	Fan slower than min. fan speed	Fan defective?	Safety switch off, no start. ¹⁾
90	Fan speed too slow during prepurge time		Reset
92	Gas pressure switch open beyond safety time		Safety switch off, no start.
93	Gas pressure switch open within safety time		Safety switch off, no start.
94	Gas pressure switch open too often within safety time		Safety switch off, no start
96	Invalid flame signal during run down or standby		Safety switch off, no start. ¹⁾
97	Flame signal		Reset ¹⁾
98	Flame off during burner operation		Safety switch off, no start. ¹⁾
99	Flame off during burner operation		Safety switch off, no start. ¹⁾
100	Flame off during burner operation		Reset ¹⁾
101	No flame detected after safety time – repeated		Safety switch off, no start. ¹⁾
102	No flame detected after safety time	No gas; no ignition; burner gets flue gas with the fresh air	Reset
104	Changeover to programming mode		Safety switch off, no start.
105	Control in programming mode		Reset
106-138	Hardware faults		change control
139		- not known -	Reset
140		- not known -	Safety switch off, no start.
141		Boiler temp too high	Safety switch off, no start.
142		Short circuit boiler flow sensor	Safety switch off, no start.
143		Open circuit boiler flow sensor	Safety switch off, no start.
144		Short circuit boiler return sensor	Safety switch off, no start.
145		Open circuit boiler return sensor	Safety switch off, no start.
146		Short circuit tank sensor 1	Safety switch off, no start.
147		Open circuit tank sensor 1	Message in display
148		Short circuit tank sensor 2	Message in display
149		Open circuit tank sensor 2	Message in display
150		Short circuit outdoor sensor	Message in display
151		Open circuit outdoor sensor	Message in display
152-200	Hardware faults		Change BMU control
201-235	Faulty parameters		
236-282	Software errors		Change BMU control
259	Reset button has been pressed by fault		Press reset button again

Code No.	Error	Reason	Factory
283	No detailed explanation		Message in the display
284	Max. time for function FA_START ran out (time TW2)		Safety switch off, no start.
285	Temporary switch off by internal timer		Safety switch off, no start.
286-288	Software faults		Change BMU control
289	Faulty ionisation signal	Faulty, no stable power supply	Check power supply
295	Gas valve can have short circuit to mass		Check gas valve
290-324	Software faults		Change BMU control
325	Invalid arrangement in HydrSystem or internal fault	Faulty or invalid parameter(s)	Safety switch off, no start / change parameter
326		SdHzAusMin is smaller than SdHzEin + min. switching difference	Message in the display / change parameters
327		SdBwAus1Min is smaller than SdBwEin1 + min. switching difference	Message in the display / change parameters
328		SdBwAus2Max + SdBwEin2 is smaller than min. switching difference	Message in the display / change parameters
329-387	Internal error		Reset or switch off and on again
388	AK_VMINT_HYDRSCHEMA_ OHNE_GV	KonfigRg1 (param 555) programmed to sliding priority though the hydraulic system does not support this	Message in the display / change parameters
389	AK_VMINT_HYDRSCHEMA_ OHNE_KV	KonfigRg1 (param. 555) programmed to "no priority" though the hydraulic system does not support this	Message in the display / change parameters
390-399	Internal software fault		Change BMU control
400	STB_TKRUECK_GROESSER_ TKIST1	Return temp. higher than flow temp. + Sd_RL_groesser_VL	Safety switch off, no start
401	STB_TKRUECK_GROESSER_ TKIST2	Return temp. higher than or equal flow temp. + Sd_RL_groesser_VL	Safety switch off, no start
402	STB_TKRUECK_GROESSER_ TKIST3		Safety switch off, no start
403	STB_TKRUECK_GROESSER_ TKIST4		Safety switch off, no start
404	STB_TKRUECK_GROESSER_ TKIST5	Fault 400 happened too often	Error message; Reset
405-421	Internal software fault		Change BMU control
422	STB_NACHERWAERMUNG	Temp. stat locked too often after burner stop	Reset
423			Reset
424-427	STB_GRADIENT	Boiler temp. rises too fast (pump blocked, no water mass flow)	Safety switch off, no start
428-432	Error		Reset
433	STB_DELTA_T1	Difference between flow and return too high	Safety switch off, no start
434	STB_DELTA_T2	Difference between flow and return still too high after reset	Safety switch off, no start
435	STB_DELTA_T3	Difference between flow and return too high	Reset

LIST OF ERROR CODES

Code No.	Error	Reason	Factory
436	UPFA_STB_FUEHLER_KONFIG	Message in case of return sensor open circuit is suppressed	Reset, change parameter KonfigRg0
437-453	Wrong parameters	Internal software fault mC1	Reset
454		There is a heat demand for heating circuit 1 which acc. to the hydr. system does not exist	Message in the display
455		There is a heat demand for heating circuit 2 which acc. to the hydr. system does not exist	Message in the display
456		There is a heat demand for a zone which acc. to the hydr. system does not exist	Message in the display
457		Invalid DHW demand	Message in the display
458		Invalid heat demand for heating circuit 1	Message in the display
459		Invalid heat demand for heating circuit 2	Message in the display
460		Invalid heat demand for zone	Message in the display
461		Open circuit tank sensor – no layer tank loading	Message in the display
462		Max. pump pressure head (param. 564) set to 0	Message in the display / change parameter
463		Max. pump pressure head (param. 564) set lower than min. pump pressure head 0	Message in the display / change parameter
464		No. of pump stages set < 2 (params. 537 or 540)	Message in the display / change parameter
465		Param. 537 not set	Message in the display / change parameter
466		Param. 537 < param. 540	Message in the display / change parameter
467		Param. 549 < param. 548 (QmodMax < QmodMin)	Message in the display / change parameter
468		Internal software fault mC1	Message in the display
469		Temp. stat locked	Safety switch off, no start
470			Reset
471-491			
477	Param. P1 > TkSNorm (Param. 505)	Change parameter	
479	Param. P1 > TkSMax (Param. 502)	Change parameter	
492-497	Software faults	Reset	
498			
499-506	Software faults	Reset	
507-514	- not used -		
515	Wrong CIM connected	Message in the display	
516	CIM defective	Message in the display / Change CIM	
517	LPB interface OCI42 not compatible with BMU control	Message in the display	
518	LPB short circuit or no power supply	Message in the display	
519	LPB address conflict: 2 appliances with the same address connected	Message in the display	
520	2 master clocks at LPB	Message in the display	

Code No.	Error	Reason	Factory
521		Invalid LPB segment or appliance no.	Message in the display
522		Wrong user interface MMI connected	Message in the display
523		User interface MMI defektive	Message in the display
524		Flow sensor of heating circuit 2 short circuit (message from CIM)	Message in the display
525		Flow sensor of heating circuit 2 open circuit (message from CIM)	Message in the display
526		Heat demand from heating circuit 2 although the hydr. system does not have heating circuit 2	Message in the display
528		QAA fan parameters release not valid	Reset
529		Programmable input not available	Message in the display
530		Programmable input programmed incorrectly	Message in the display
531		Input KonfigAusgang M5 already occupied	Message in the display / use CIM input param. 619-621
532		Programmable output programmed incorrectly	Message in the display
533		Programmable output programmed permanently (always ON)	Message in the display
534		KonfigHks wrongly programmed	Message in the display
535		Heat demand from heating circuit 1 although the hydr. system does not have heating circuit 1	Message in the display
536-538		Safety lockout	
539		1 QAA and 1 OCI connected as time masters	Reset / Change param. 604
540		LmodZL_QAA (608) > LmodZL (38)	Reset; change parameter 608
541		LmodVL_QAA (610) > LmodVL (40)	Reset; change parameter 610
542		LmodTL_QAA (609) > LmodTL (39)	Reset; change parameter 609
543		N_ZL_QAA (611) > N_ZL (48)	Reset; change parameter 611
544		N_VL_QAA (613) > N_VL (46)	Reset; change parameter 613
545		N_TL_QAA (612) > N_TL (50)	Reset; change parameter 612
546		Sensor connected to CIR short circ.	Message in the display
547		Sensor connected to CIR short circ.	Message in the display
548		Function "programmable input" with CIR not possible because too many modules are connected (only 2 inputs possible)	Message in the display
549		Output 3 on CIR is locked because too many modules are connected (only 2 inputs possible)	Message in the display
550		With this hyd. system, no header is possible	Message in the display
551		Wrong version of connected CIR	Message in the display
552		CIR defective, no communication	Message in the display
553		Type connected to CIR not recognised	Message in the display
554		Both controllers get different flame signals	Safety switch off, no start

1) See control program sequence, installation manual p. 56, mind the error phase.

OPERATION – ROOM REGULATOR DEVICE RRG

Info button

The Info level can be changed at any time simply by pressing the Info button. Press the button several times to go to various items of information (see Table 2).

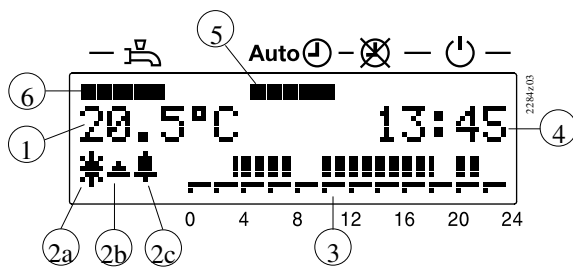
Table 2 Info button

Line	indication
1	Time, room temperature actual value and operating mode; basic indication
2	2 Error indication, see Table 5
3	3 Status display, see Table 2.1
4	4 Time and operating state – heating circuit 1
5	5 Weekday, time and date
6	6 Outdoor temperature actual value
7	7 Lowest outdoor temperature *
8	8 Highest outdoor temperature *
9	9 Room temperature actual value
10	10 Lowest room temperature *
11	11 Highest room temperature *
12	12 Hot water temperature actual value
13	13 Boiler temperature actual value (pump heating circuit or hot-water loading temp.)
14	14 Main supply pipe temperature actual value (mixer heating circuit)
15	15 Burner modulation
16	16 Water pressure in heating circuit (not activated)

Note: After 8 min. the display will change back to basic indication.

*) Reset to current actual temperature by pressing the +/- buttons simultaneously for at least 3 sec.

Info level basic indication



- 1 Actual value of the room temperature
- 2a Heating circuit operating level indication
 - * Nominal
 - ☐ Reduced
 - * Frost protection
- 2b Flame status (activated, if flame ON)
- 2c Error/maintenance information (activated, if error/maintenance upcoming)
- 3 Time bar
- 4 Time
- 5 Operating modes heating circuit
- 6 Operating mode service water

Maintenance indication

— If maintenance information is upcoming, the symbol for error/maintenance information will be blinking.

Maintenance texts

- indication only when the maintenance indication is blinking

Tab. 2.1

Indication – room regulator device RRG	Maintenance or error description
Service	Service of boiler or burner necessary
Chimney Sweep	Chimney sweep function is active
Regulator stop	Regulator stop function is active
Setting Vo KL	Setting Vo low load is active
Setting Vo GL	Setting Vo high load is active
Para-mode	Device is in parameterizing mode
Cement	Cement function (function not available in BMU)
Modem	Standby through external BMU contact

Table 4: Standard setting of PARAMOUNT boiler control


How to proceed to program a new (spare) control:

- For a safe and reliable operation of the boiler, the below mentioned parameters have to be set.
- In case the old control (BMU) has parameters with a different setting, these differences have to be noted before changing the BMU and reprogrammed into the new control

Display RRG service module Param. No.	Param. Name	PARAMOUNT 40	PARAMOUNT 51	PARAMOUNT 80
536 1)	NhzMax 100	90	100	
541 1)	PhzMax 6100	5400	5800	
542 1)	PminHuKw	9	12	20
543 1)	PmaxHuKw	38	50	77
552	HydrSys	Set according to heating system installed		
608 1)	LmodZL_QAA	45	40	30
609 1)	LmodTL_QAA	16	15	15
610 1)	LmodVL_QAA	100	90	100
611 1)	N_ZL_QAA	3500	3100	2800
612 1)	N_TL_QAA	1450	1450	1700
613 1)	N_VL_QAA	6100	5400	5800

1) Note: For operation and safety reasons, the specific min. and max. output values must be observed !!

EXPLANATIONS TO ADJUSTMENT CHART FOR HEATING EXPERT

Explanation to Table 3	The adjustment level for the owner-operator is reached by pressing one of the program buttons. Afterwards, select the desired program no.
Date (2) and year (3)	The room regulator device RRG contains an annual clock with adjustment parameters for date and year. However, there is no calendar function, i.e. you must check the correspondence of the weekday with date and year on your own.
Room temperature reduced setpoint value (5)	In the reduced mode, the room temperature is regulated according to the pre-set value. It is not possible to enter the setpoint value of the reduced mode higher than current setting on the nominal temperature rotary knob.
Room temperature setpoint value in case of frost protection (6)	In the operating mode  during the frost protection mode, the room temperature is heated up to precept setpoint value so that a extreme drop in the room temperature is prevented.
Hot-water temperature setpoint (7)	The settings of the hot-water temperature are made for the hot-water nominal operating mode at program no. 7 and at program no. 90 for the secondary utilisation times (reduced hot-water temperature setpoint value).
Weekday preselection (10, 20 and 30)	For the selection of the heating program, an individual day (indication "Mon" to "Sun") or the entire week (indication "Week") and the start and end of the heating phase must be selected in the program no. 10, 20 or 30. <i>Note:</i> If the week block is selected, the input heating phases are then active for all weekdays. <ul style="list-style-type: none">• For each day that is supposed to have other switching times, the individual day preselection with subsequent switching-time input must be repeated.
Heating phases (10 to 16, 21 to 26 and 31 to 36)	Up to 3 heating phases per day can be set. In the heating phase, the heating process will be carried out according to the room temperature or hot-water temperature precept on the rotary knob; outside the heating phase, the heating process will be carried out according to the setpoint value reduced under program no. 5 or 90.
Note	<ul style="list-style-type: none">• The parameters 20 ... 26 can be seen only if a 2nd heating circuit is support by the boiler regulating system.• The parameters 30 ... 36 can be seen only if program no. 91 heating expert level has been adjusted to ZSP BW.
Holiday start (40) or holiday end (41)	The heating circuit operating level can be lowered during holidays. Holiday start and holiday end are adjusted here. This function is only active in the automatic mode and affects both heating phases simultaneously. <ul style="list-style-type: none">• Following holiday start, the heating level is lowered according to the parameter setting on program no. 42 either to the level "Reduced" or "Frost".• After holiday end, the current room regulator device settings apply again.• The data for holiday start and holiday end are automatically deleted after holiday end. An input holiday period is deleted or interrupted as follows: Select program no. 40 or 41 and press and hold down the +/- buttons for 3 sec.
Heating circuit level during the holidays (42)	This function can be used to define whether the heating process is to carried out according to the temperature adjusted under program no. 5 or 6.

**Standard time program (45)
(heating mode from 6.00 to 22.00)**

Here the +/- buttons must be pressed simultaneously (at least 3 sec.). If the indication changes to "Yes", then the standard program has been activated. All time programs for heating and hot-water operation are then set to the standard values (heating mode from 6:00 to 22:00).

**Summer/winter changeover
temperature (46)**

In the case of the temperature precept under program no. 46, the heating system is switched over to summer or winter operation (only operating mode "AUTO"). If this temperature value is increased, the heating system is switched over to summer operation later and it is switched over earlier to summer operation if this temperature value is lowered. During summer operation, the room heating system is switched off. This is indicated in the display Info no. 4 with 0 °C.

Error display (50)

The room regulator device RRG indicates errors that can occur in the device itself or in the system. If error information is upcoming, the symbol for error/maintenance information will be blinking.

After selecting the Info button (line 2) or the program no. 50, the +/- buttons can be used to display the error list (see Table 5). The room regulator device RRG can store a maximum number of 2 error messages which are deleted only if the cause of error has been eliminated. If any other error messages exist, these will not be displayed until the previous errors have been eliminated.

Example of an error message



Table 5 Error display (Info button, line 2 or program no. 50)

Error code	Indication RRG	Error description
0	„No error“	No error
10	„Outdoor sensor“	Error on outdoor temperature sensor B9
60	„Room sensor“	Error on room temperature sensor RRG
100	„Time master“	No valid external clock time (annual clock)
118	„Water pressure low“	Water pressure of the system is too low
124	„Boiler temp.“	Alarm, boiler temperature too high!
131	„Burner malfunction“	Burner malfunction
142	„OpenTherm“	Missing partner device on LPB bus
150	„BMU“	General error – controlling and regulating unit
153	„Locking“	Controlling and regulating unit is in locking
162	„Air pressure monitoring device“	Error on air pressure monitoring device

EXPLANATIONS TO ADJUSTMENT CHART FOR HEATING EXPERT

Table 4 Adjustment of the system-dependent parameters in the heating expert level

- **Press the program button ▼ or ▲ (owner-operator level)**
and then press both buttons ▼ and ▲ for at least 3 sec. (service engineer's level)
- Select the desired program no. by pressing one of the program buttons
- Adjust the desired value by pressing the +/- buttons
- Press the Info button to leave the owner-operator level

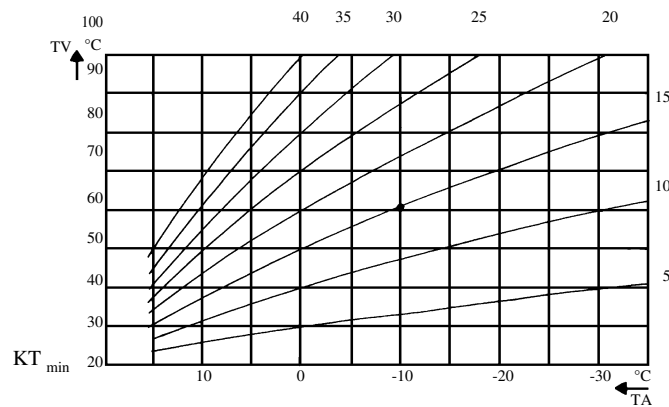
Note: After 8 min. without pressing any button the room control automatically shifts back to the info-level.

Prog-no.	Function	Basic setting (factory-made setting)	New setting
51	Actual value – current room temperature setpoint value; HK 1	Indication (°C)	
52	Actual value – current room temperature setpoint value; HK 2	Indication (°C)	
53	Damped outdoor temperature (resetting to actual value by pressing the +/- buttons simultaneously for at least 3 sec.)	Indication (°C)	
54	Mixed outdoor temperature	Indication (°C)	
55	Actual value – water temperature sensor 2	Indication (°C)	
56	low rate – hot water (not activated)	Indication (1/min)	
57	Actual value – boiler main return pipe temperature	Indication (°C)	
58	Actual value – exhaust gas temperature	Indication (°C)	
59	Actual value – solar collector temperature	Indication (°C)	
61	Actual value – solar storage temperature	Indication (°C)	
62	OpenTherm mode, Lite, Plus	Indication	
63	Actual flow temperature setpoint heating circuit 1	display	
64	Actual flow temperature setpoint heating circuit 2	display	
70	Heating curves slope (without room influence) HK 1 --- = inactive; 2.5 ... 40.0 = active	18,0	
71	Main supply pipe temperature minimum limitation HK 1	8 °C	
72	Main supply pipe temperature maximum limitation HK 1	80 °C	
73	Heating curves parallel shifting HK 1	0,0 (K)	
74	Building construction; heavy, light	Light	
75	Room temperature influence (in case of room control) None, on HK 1, on HK 2, on HK 1 + HK 2	None	
76	Switching difference – room; --.- = inactive, 0.5 ... 4.0 = active	0,5 K	
77	Heating curves adaption; inactive, active	Active	
78	Switching-on time optimisation; 0 = inactive	100 min	
79	Switching-off time optimisation; 0 = inactive	30 min	
80	Heating curves slope (without room influence) HK 2 --- = inactive; 2.5 ... 40.0 = active	15,0	
81	Main supply pipe temperature minimum limitation HK 2	8 °C	
82	Main supply pipe temperature maximum limitation HK 2	80 °C	
83	Heating curves parallel shifting HK 2	0,0 (K)	
84	Constant for quick lowering (KON) (without room temp. sensor)	4	
90	Reduced setpoint value for hot-water temperature	40 °C	
91	Release for hot-water loading 24 h/day, ZSP HK – 1 h, ZSP HK, ZSP BW	ZSP HK - 1h	
92	Legionella function; OFF, weekly, daily	weekly	
94	Control of DHW circulation pump: DHW release, DHW program, following program heating circuit HK 2	DHW release	
95	Programming of users' level; inhibited, released	released	
96	Clock time master; RRG, external	RRG (QAA 73)	
97	Summer time start; Jan 1st ... Dec. 31 st	25. March	
98	Summer time end; Jan 1st ... Dec. 31 st	25. Oct	

Explanations to Table 4	The adjustment table for the heating expert is reached by pressing one of the two program buttons first and then pressing both program buttons simultaneously for approximately 3 seconds. Afterwards select the desired program no.
Actual values – current room temperature setpoint value (51 and 52)	Depending on the operating mode in each case, the roomreduzierten temperature regulated according to the nominal setpoint value, the reduced setpoint value or the frost protection setpoint value. The current setpoint values are indicated here.
Damped outdoor temperature (53)	The damped outdoor is a simulated outdoor temperature (53) takes the heat storage capacity of the building into account. This temperature is constantly calculated by the room regulator device and is used for the summer/winter changeover.
Resetting the damped outdoor temperature	Under program no. 53, press the two +/- buttons for at least 3 seconds. If the blinking stops, the system has been reset to the current outdoor temperature.
Mixed outdoor temperature (54)	The mixed outdoor temperature is composed of the damped and the current outdoor temperature. It serves as a control quantity for the main supply pipe temperature regulation and also has an effect on the automatic heating limit system, in order to shut down the heating system.
Actual values – temperatures (55 and 57 to 61)	The current actual values of the temperatures are indicated by selecting the respective program no.
Flow rate – hot water (56)	This function is not activated.
OpenTherm mode (62)	The room regulator device supports two transmission protocols. After the room regulator device has been connected to the boiler, the protocol being used is then indicated.
Determining the slope of the heating curves	Enter the lowest calculatory outdoor temperature according to climate zone in the diagram (e.g. vertical line at -10 °C). Enter the maximum main supply pipe temperature of the heating circuit (e.g. horizontal line at 60 °C). The intersecting point of both lines provides the slope of the heating curve of the main supply pipe temperature (this example provides a result of 15).
Heating curves slope HK 1 and HK 2 (70 or 80)	Use the +/- buttons to adjust the average value HK 2 (70 or 80) determined above. With room influence (program no. 75), an automatic adaptation of the heating curve to the building dynamics is possible. The settings below have the following effect: 2.5 ... 40.0 The room regulator device provides a weather-controlled main supply pipe temperature for the affected heating circuit. --.- The affected heating circuit is deactivated.
Note	<ul style="list-style-type: none"> • HK 1 can only be deactivated if HK 2 has also been deactivated or does not exist. • Line 80 can be seen only if a 2nd heating circuit exists and is supported by the boiler regulating system.
Main supply pipe minimum limitation HK 1 and HK 2 (71 and 81)	The minimum main supply pipe temperature for the heating mode is defined using the value entered under program no. 71 or 81.
Main supply pipe maximum limitation HK 1 and HK 2 (72 and 82)	The maximum main supply pipe temperature for the heating mode is defined using the value entered under program no. 72 or 82. This limitation is not considered to a safety function, as required, for example, in the case of a floor heating system.

EXPLANATIONS TO ADJUSTMENT CHART FOR HEATING EXPERT

Fig. 5 Heating curve diagram



Heating curves parallel shifting HK 1 and HK 2 (73 and 83)

If a specified heating curve does not suit the individual heating requirements, a heating curve precept under program no. 70 or 80 can then be shifted on a parallel basis by changing these values.

Building construction (74)

The heat storage capacity of the building is taken into account according to the building construction. In the case of the setting "Light", the regulating system reacts more quickly to outdoor temperature fluctuations than in the case of the setting "Heavy".

Room temperature influence (75)

A factory-made room temperature influence setting does not exist, i.e. the temperature sensor of the room regulator device is then without any effect. If the room temperature influence is desired, the heating circuits upon which the sensor is to have an effect can then be adjusted here.

Basic requirements for room temperature influence

For room temperature influence, an outdoor temperature sensor must be connected, the heating circuits for room influence activated and there must be no regulated radiator valves in the reference room (thermostat valves must be completely opened).

Room influence only

If only the room temperature is to influence the boiler (flow) temperature, the outdoor temperature sensor must be not connected!

Switching difference – room (76)

The heating circuit pumps are switched on and off by the factor entered under program no. 76 depending on the room temperature (2-point controller). The switching point can be specified within a range from 0.5 to 4.0 K. The factory-made setting is 0.5 K.

Heating curves adaption (77)

With the heating curves adaption, the heating curve is automatically adapted to the building and the requirements. This has an effect only with the room regulator device and active room temperature influence (75). Manual correction of the heating curve should not be carried out because otherwise the calculation of the adaption will then be partly reset. Each time at midnight, the room temperature regulating difference of the previous day is evaluated. This evaluation results in automatic correction of the heating curve.

Switching-on time optimisation (78)

In case of activation, the switching-on time is advanced versus the heating program. The optimisation function can only be fully utilised with connected room regulator device and active room temperature influence (75).

Switching-off time optimisation (79)

If program no. 79 is activated, the room regulator device changes the switching-off time automatically until the optimum switching-off time is found. The maximum possible advancement is then adjusted.

Constant for quick lowering (KON) (84)

This function switches off the heating circuit pump whenever the system switches over to a lower room temperature setpoint value (e.g. in case of night lowering). This function is designed to be used for systems being operated with an outdoor temperature sensor but without room temperature influence. The switching-off period for the heating circuit pump mentioned in Table 4 is specified by the input of a constant (KON). The heating circuit pump is switched off for maximum period of 15 hours. In case of outdoor temperatures below -5 °C, the pump is no longer switched off.

Note: Enter small KON for "light" buildings that cool off rapidly and big KON for "heavy", well insulated buildings.

Table 5 Switching-off times

Mixed outdoor temperature	Switching-off time of the pump in hours (h) in case of KON =				
	KON=0	KON=4	KON=8	KON=12	KON=15
-20°C	0	0	0	0	0
-10°C	0	0,5	≈ 1h	≈ 1,5 h	≈ 2h
0°C	0	≈ 3h	≈ 6h	≈ 9h	≈ 11h
+10	0	≈ 5h	≈ 11h	≈ 15h	≈ 15h

Reduced setpoint value for hot-water temperature (90)

The system is regulated according to this temperature in the secondary utilisation periods. The lowered temperature for the hot water applies to all lowering phases of the heating mode.

Hot-water push

If the hot-water reservoir is emptied in the lowering mode (e.g. at night) and the hot-water actual value drops approx. 4 °C below the reduced hot-water setpoint value, the hot-water push starts up automatically and heats the hot-water reservoir **once** up to the hot-water temperature setpoint value precept under program no. 7. Afterwards, the system continues to operate according to the hot-water program again.

Release for hot-water loading (91)

Here the release for the hot-water loading operation can be adjusted and adapted to the individual hot-water requirements.

24 h/day: Hot water is provided with nominal temperature continuously 24 h/day.

ZSP HK -1h: Hot-water temperature is controlled according to the heating circuit programs, with advancement of 1 hour.

ZSP HK: Hot-water temperature is controlled according to the heating circuit programs.

ZSP HK BW :Hot-water temperature is controlled according to the hot-water time program 3.

Legionella function (92)

The legionella function includes periodic heating of the service water reservoir and a higher hot-water temperature. Any possible legionella germs are killed once a week by this extra heating-up process of the hot water to 65 °C.

This function may not be activated on DHW systems with instantaneous water heaters!

- OFF No legionella function activated.
- Weekly Legionella function starts every Monday with the first release of the DHW preparation (max. 2,5 h). If the timer program inhibits the loading of the tank, it will take place at the next loading.
- Daily Legionella function starts daily with the first tank loading.

- Notes
- If the legionella function is not made or interrupted on the day in question, it will be made the day after with the first preparation of DHW.
 - The legionella function can only be made if the tank loading is released by the DHW program.

DHW circulation pumps control


3 settings possible:

- DHW release: Circulation pump is running permanently according to param. 91.
DHW program: Circulation pump is running according to the periods of DHW preparation (param. 30 to 36).
Program HK 2: Circulation pump is running according to the setting of the heating circuit 2 (param. 20 to 26).

Programming lock – owner-operator level (95)

The operator lock is switched on and off by the setting:

In case of input:

- OFF The operator lock is switched off. The parameter values can be changed (factory-made settings).
ON The operator lock switched on. Although the parameter values can be indicated, they can no longer be changed. When the plus/minus buttons are pressed, the symbol  appears in the display instead of the value.

Temporary cancellation of the programming lock

The programming lock is temporarily cancelled and the settings can be changed by pressing the two buttons ".▼." and "+" for at least 3 seconds. This temporary cancellation of the operator lock is valid until the next changeover into the Info level.

Permanent cancellation of the programming lock

For permanent cancellation, return to the heating expert level again after pressing the two buttons ".▼." and "+" and then select "OFF" with the plus or minus button.

Clock time master (96)

The clock time of the RRG and the boiler are periodically balanced (every 5 minutes). In case of the setting "RRG", the boiler regulating system accepts the clock time of the RRG.

In case of the setting "external", the clock time on the RRG can be readjusted.

Summer-time start (97) or summer-time end (98)

The changeover of the time is carried out automatically in both directions. However, should the international definitions change, program no. 97 and 98 must then be input again. The input is then earliest possible changeover date, and the changeover weekday is always Sunday.

If the definition of the summer-time start is "On the last Sunday in the month of March", the earliest possible changeover date is then March 25th. This date must then be entered as "25.March".

Example

Automatic day heating limit system

The automatic heating limit system is only active with connected outdoor temperature sensor. This system has to with an economy function that switches off the heating system as soon as the mixed outdoor temperature is higher than the room temperature setpoint value (normal or reduced). The heating system switches on again as soon as the mixed outdoor temperature is 2 K below the room temperature setpoint value. In case of weather control with room influence, the actual room temperature is taken into account.

The automatic day heating limit system is not active in the continuous mode . In the case of active automatic day heating limit system, "ECO" appears in the display.

Resetting the mixed outdoor temperature (e.g. for function test)

In order to cancel or carry out a shutdown by the automatic day heating limit system or by the automatic summer/winter changeover system, the damped outdoor temperature being used for this purpose can be reset to the current outdoor temperature. This is done according to the following procedure:

- Select program no. 53
- Press +/- buttons simultaneously for at least 3 sec. (display blinking)
As soon as the display stops blinking, the current outdoor temperature becomes active.

Frost protection with outdoor temperature sensor

The frost protection functions for the building and system are active in any operating mode and have absolute priority over all other functions.

Building frost protection

The frost protection function of the room regulator device prevents the room temperature from dropping below the precept frost protection value in the case of a fully functional heating system.

Boiler, system and hot-water frost protection

The frost protection functions are integrated in the controlling and regulating unit of the heating boiler.

Information for the heating expert

With the RRG room regulating device or the RRG service module, necessary parameter adjustments can be made in the heating expert level of the controlling and regulating unit (BMU) of the heating boiler (see Table 9 of the boiler instructions manual WGB 2, WGB-K), Paramount rsp. Eurocondense. This is achieved according to the following procedure:

Table 9 Adjustment of the system-dependent parameters in the heating expert level of the controlling and regulating unit (BMU) (using the RRG room regulator device or RRG service module)

- Press Info button. Then press the buttons +/ or +/ .▲. until "Initialisation BMU parameters" appears in the display (end-user level).
- Select heating expert level: Press both buttons .▼. .▲. > sec. until "Initialisation BMU expert" appears in the display.
- Select the desired program no. by pressing one of the program
- Adjust the desired value by pressing the +/- buttons
- After the next program no. has been selected, the new value is accepted
- Press the Info button to leave the programming level..

All descriptions and illustrations contained in this leaflet have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet.