SCHNEID

MR-08 Heating Regulator
Commissioning Documentation

Modern Life - Modern Solutions

Universally useable, modulary structured heating regulator with basis on a freely programmable micro-controller with extensive possibilities for Bus-Connections, system display, remote maintenance and web-connection.

SCHNEID GesmbH

www.schneid.at

Inhaltsverzeichnis

1 Safety Instructions....6

2 Configuration Facility Scheme....7

2.1 Release and entrance to the service level....7

2.2 Quick configuration....7

2.3 Individual configuration....7

3 Electrical Connections....9

3.1.1 Connection of extension modules (heat circuit modules)....9

3.1.2 Connection to CPU / console terminal....9

3.2 Supply and outputs (230V~)....10

3.3 Cable diagram motherboard....11

3.4 Cable diagram COM-Basis....12

3.5 Cable diagram Expansion Modules....13

3.6 AIN-Module....14

3.7 Speed Control Module....15

4 Base-A....16

4.1 District Heating....16

4.2 Temperatur Control for Base-B - Variant 1....17

4.3 Temperature Control for Base-B - Variant 2....18

5 Base-B....19

5.1 Heating Circuit pre-controlled....19

5.2 Room control without optimization....20

5.3 Room Control with optimisation....21

5.4 Room Thermostat....22

5.5 External set-point selection 0-10V / 0-20mA....23

5.6 Intermediate circuit long-distance heating without pump....24

5.7 Intermediate long-distance heating with pump....25

5.8 Return flow increase with valve 45....25

6 Base-C....26

6.1 WW register storage with pump or globe valve....26

6.2 Switching valve WW load through pump 1....27

6.3 WW load module pre-controlled through pump 1....28

6.4 WW load module controlled on extension module 1....29

6.4.1 Parameter Boiler 1....29

6.4.2 Parameter Lademodul geregelt....29

6.5 Buffer storage tank....30

6.6 Buffer storage tank – pump speed controlled....31
6.7 Difference controller Solar....32
6.8 Difference controller solar pump speed controlled....33
6.9 WW circulation pump....34
6.10 Release for external WW load....35

7 Base-D....36

7.1 WW register storage with pump or globe valve....36
7.2 Switching valve WW load through pump 1....37
7.3 WW load module pre-controlled through pump 1....38
7.4 WW load module controlled on extension module 2....39
7.4.1 Parameter Speicher 2....39
7.4.2 Parameter Lademodul geregelt....39
7.5 Heating storage tank....40
7.6 Heating storage tank – pump speed controlled....41
7.7 Difference controller Solar....42
7.8 Differenzregler Solar - Pumpe drehzahlgeregelt....43
7.9 WW circulation pump....44
7.10 Release for external WW load....45

8 Expansion module 1....46

8.1 Heating circuit controlled....46
8.2 Room control without optimization....47
8.3 Room control with optimization....48
8.4 Room thermostat....49
8.5 External set-point selection 0-10V / 0-20mA....50
8.6 WW load module controlled for Basis C....51
8.7 Circulation pump for Basis C....51
8.8 Switching valve for additional heat generators....52
8.9 Requirement of addition heat generators....53
8.10 Intermediate circuit pump....54

9 Eypansion Module 2....55

9.1 Heating circuit controlled....55
9.2 Room control without optimization....56
9.3 Room control with optimization....57
9.4 Room thermostat....58
9.5 External set-point selection 0-10V / 0-20mA....59
9.6 WW load module controlled for Base D....60
9.7 Circulation pump for Basis D....60
9.8 Switching valve for additional heat generators....61
9.9 Requirement of addition heat generators....62
9.10 Intermediate circuit pump....63

10 Expansion Moduel 3.....64

10.1 Heating circuit controlled.....64

10.2 Room control without optimization.....65

10.3 Room control with optimization.....66

10.4 Room thermostat.....67

10.5 External set-point selection 0-10V / 0-20mA.....68

10.6 Speed control module.....69

10.7 Circulation pump for Basis C.....69

10.8 Switching valve for additional heat generators.....70

10.9 Requirement of addition heat generators.....71

10.10 Intermediate circuit pump.....72

11 BASIC SETTINGS.....73

11.1 Release and input to parameter level.....73

11.2 Boiler primary side – Parameter 12.....73

11.3 Offset outside temperature – Parameter 13.....73

11.4 Shut-off pumps – Parameter 22.....73

11.5 On/Off increase – Parameter 23.....73

11.6 Full night decrease – Parameter 24.....73

11.7 No night decrease – Parameter 25.....73

11.8 Hysteresis thermostat control – Parameter 26.....73

11.9 Notification outside temperature for control – Parameter 28.....73

11.10 Notification of the outside temperature for shut-off – Parameter 34.....74

11.11 Flow temperature at frost – Parameter 29.....74

11.12 Frost protection at outside temperature – Parameter 30.....74

11.13 Buffer amplifier operation mode – Parameter 59.....74

11.14 Final value at 0-10V – Parameter 64.....75

11.15 Periods of time heater – Parameter 67.....75

12 Technical Data.....76

12.1 General control specifications.....77

12.2 Assign hot keys.....78

12.3 Types of operation.....79

12.3.1 Off / frost protection.....79
12.3.2 Decreasing operation.....79
12.3.3 Heating operation.....79
12.3.4 Automatic operation.....79
12.3.5 Boiler operation.....79
12.3.6 Party mode.....79
12.3.7 MAINTENANCE.....79

1 Safety Instructions

Danger of scalding:

Some parts of this system may reach temperatures exceeding 55°C (for thresholds of burning, see EN 563). Be sure to point out all possibly existing dangers (such as touchable surfaces, high temperatures of used water) to all persons operating this system.

Legionella heating:

If this function is activated, once per week the industrial water is heated up to 65°C to destroy legionella. (**Risk of burns!**).

Temperatures allowed:

Make sure, with the help of the settings, that the hydraulic facility's allowed temperature is not exceeded even in case of low outside temperatures (e.g. -20°C) (e.g. floor heating, plastic pipes, etc., may be damaged in case of too high temperatures).

Danger of freezing:

Make sure that the FUNCTION button is not in the MAINTENANCE or BOILER position for too long during winter time. The heating and the boiler service pipes respectively may freeze.

Position MAINTENANCE: No antifreeze monitoring is done in the BOILER position: The boiler service pipes may freeze unless water is drained and the boiler has been loaded. The boiler pump is not turned on and consequently the service pipe does not allow water to flow through.

Caution:

To disconnect the unit from the mains, use the all-polar switch on the part of the builder.

The device must only be opened by an qualified expert.

The unit is completely maintenance-free.

It must be made sure that suitable grounding as well as pipe protection at input exist according to the national and local restrictions!

2 Configuration Facility Scheme

The MR-08 design is according to the scheme. The motherboard consists of the groups A, B, C and D. Each individual group can be allocated to one certain function provided with the prepared inlet and outlet. The extension modules present the heating circuits in an extended sense. They may, though, also be used for other purposes such as the requirements of a generator or the control of a loading module of a boiler. The third extension module can also be replaced by a speed control module and enables a quantity controlled storage loading from the long-distance heating and/or solar facility.

Components	Use
Base A	Transfer station long distance heating, temperature control for Base B
Base B	Heating circuit 0, return flow increase, flow increase
Base C	Boiler, Buffer, Circulation Pump, Solar
Base D	Boiler, Buffer, Circulation Pump, Solar
Extension Module 1	eating circuit 1, Generator, Loading Module, Circulation Pump
Extension Module 2	eating circuit 2, Generator, Loading Module, Circulation Pump
Extension Module 3 or Speed Control-Module	eating circuit 3, Generator, speed control for Base C and/or D, Circulation Pump

A unique scheme number is created through configuration of the individual components. The schema number would be 1 – 1 – 1 – 7 – 1 – 1 – 1 in the following illustration on the next page.

2.1 Release and entrance to the service level

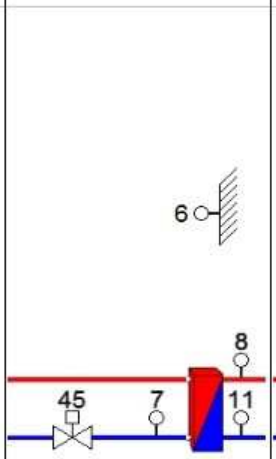
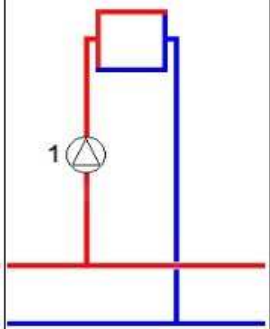
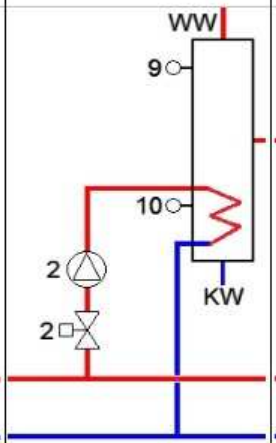
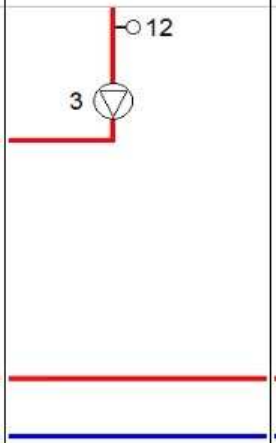
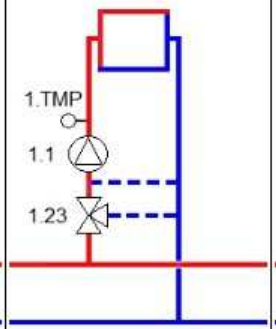
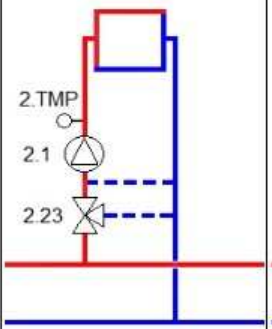
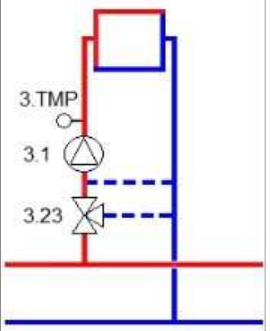
- Keep both arrow keys pressed until “Service level“ appears on the display
- Confirm the code input with "ENTER" and enter the service code
- The service level is now enabled
- Select the menu item “Configuration” to configure within the service level.

2.2 Quick configuration

If you already know how the facility is designed, you can just perform a quick configuration with the schema numbers. Otherwise, it is recommended to configure the individual groups one by one in order to avoid any errors.

2.3 Individual configuration

This is where you perform configuration of individual groups. As soon as you enter the individual configuration, the first adjustable group and the selected schema (e.g. Basis A – long-distance heating) appears in the display. In order to configure a group, just confirm and interconnect with “ENTER” at the desired group until the desired schema appears and re-confirm with “ENTER”.

	BASE A	BASE B	BASE C	BASE D	Expansion Module 1	Expansion Module 2	Expansion Module 3 or Speed Control Module **
					(if available)	(if available)	(if available)
							
Nr.	Variants Base Modul A	Variants Base Modul B	Variants Base Modul C	Variants Base Modul D	Variants Expansion Module 1	Variants Expansion Module 2	Variants Expansion Module 3
0	not available	not available	not available	not available	not available	not available	not available
1	District Heating *	Heating Circle preregulated *	Hot water storage register with Pump or globe valve *	Hot water storage register with Pump or globe valve	Heating Circle regulated *	Heating Circle regulated *	Heating Circle regulated *
2	Temperature control for Base B / Pump 1	Room control without optimization	Reversing valve hot water charge using Pump 1	Reversing valve hot water charge using Pump 1	Room control without optimization	Room control without optimization	Room control without optimization
3		Room control with optimization	Hot water load module preregulated using Pump 1	Hot water load module preregulated using Pump 1	Room control with optimization	Room control with optimization	Room control with optimization
4		Room Thermostat	Hot water load module regulated using Extension Module 1	Hot water load module regulated using Extension Module 2	Room Thermostat	Room Thermostat	Room Thermostat
5		External setpoint selection 0-10V	Heating Storage	Heating Storage	External setpoint selection 0-10V	External setpoint selection 0-10V	External setpoint selection 0-10V
6		Intermediate circuit Distrcit Heating without Pump	Difference-Controller Solar	Difference Controller Solar	Hot water load module regulated for Base C	Hot water load module regulated for Base D	Speed Control Module **
7		Intermediate circuit Distrcit Heating with Pump	Hot water Circulation Pump	Hot water Circulation Pump *	Hot water Circulation Pump for Base C	Hot water Circulation Pump for Base D	Hot water Circulation Pump for Base C
8		Return flow boost using Valve 45	Release for external hot water charge	Release for external hot water charge	Switch-Valve for additional heat generator	Switch-Valve for additional heat generator	Switch-Valve for additional heat generator
9			Special program	Special program	Requirement of additional heat generator	Requirement of additional heat generator	Requirement of additional heat generator
10					Intermediate circuit pump	Intermediate circuit pump	Intermediate circuit pump

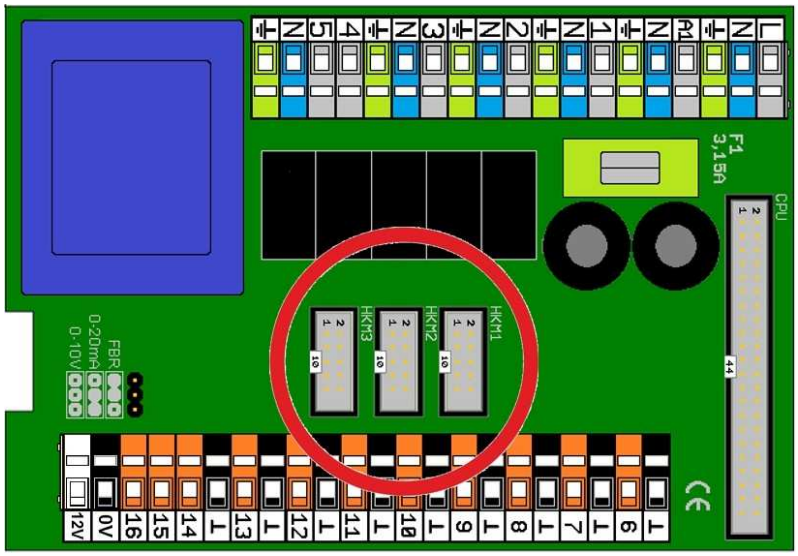
* Factory configuration

** For volume-controlled storage charge from district heating and/or solar system

3 Electrical Connections

3.1.1 Connection of extension modules (heat circuit modules)

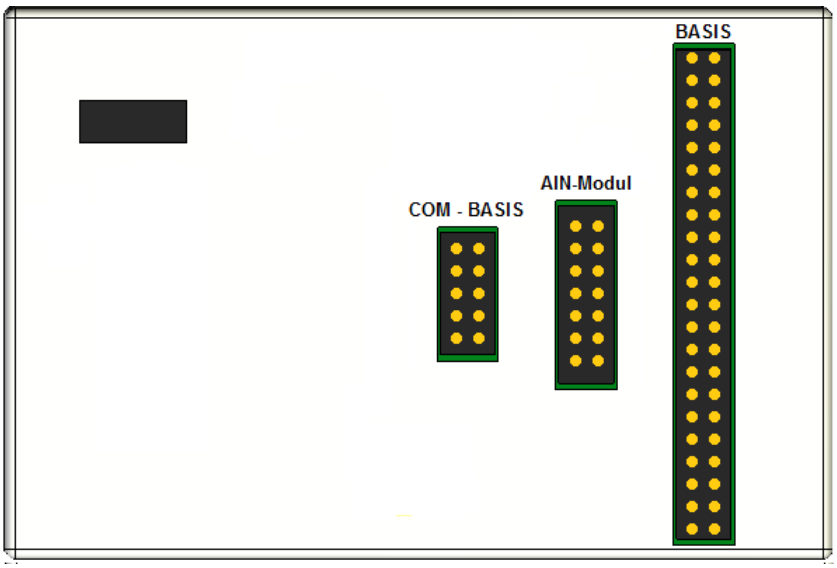
The connection of the modules is done directly on the MR-08 basis. In the center of the basis you will find three 10-pole connections for ribbon cables. The extension modules one, two and three are connected to those. If a speed control module is used, it is installed to the connection for extension module 3 and replaces the same. The AIN module is directly installed on the backside of the controller, see illustration 18.



3.1.2 Connection to CPU / console terminal

The basis must be connected with the CPU and the console terminal respectively. For that reason, the basis is connected to the console terminal with a 44-pole ribbon cable.

The communication module is also connected to the backside of the console terminal, as shown in the illustration, with the help of a 10-pose ribbon cable.



3.2 Supply and outputs (230V~)

Supply and Outputs 230V~

Supply 230 VAC L
Supplyg 230 VAC N
Protective conductor PE

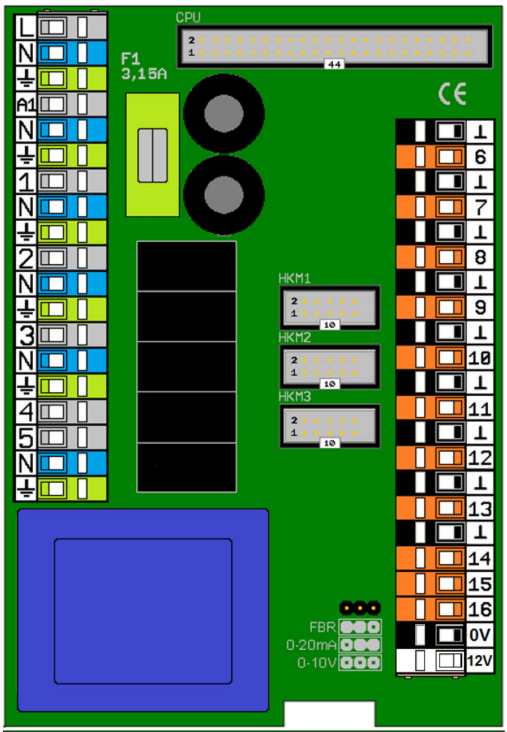
Output 230 VAC for Heating Circuit Module L
Output 230 VAC for Heating Circuit Module N
Protective conductor PE

P1 Heating Circuit 0 Pump L
P1 Heating Circuit 0 Pump N

P2 Boiler 1 Pump L
P2 Boiler 2 Pump N

P3 Boiler 2 Pump L
P3 Boiler 2 Pump N

M45 District Heating Valve OPEN L
M45 District Heating Valve CLOSED L
M45 District Heating Valve N



FBR Input: Jumper on 1&2
0-20mA: Jumper on 2&3
0-10V: all links open

Temperatures Pt1000

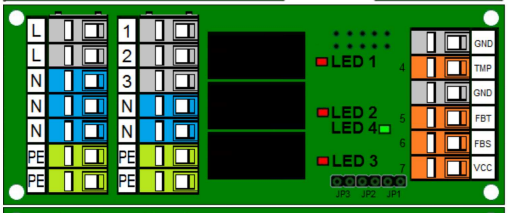
(2poles, shielded)

GND
Terminal 6: **T6** external temperature
GND
Terminal 7: **T7** primary return temperature
GND
Terminal 8: **T8** secondary flow temperature
GND
Terminal 9: **T9** Boiler 1 top temperature
GND
Terminal 10: **T10** Boiler 1 bottom temperature
GND
Terminal 11: **T11** secondary return temperature
GND
Terminal 12: **T12** Boiler 2 top temperature
GND
Terminal 13: **T13** Boiler 2 bottom temperature
GND remote control of circuit 0
Terminal 14: **FBT** room temperature of circuit 0
Terminal 15: **FBS** remote control signal
Terminal 16: **VCC** remote control supply

12V Ausgang für SCHNEID Funkmodule

Outputs 230VAC

1P1 Pump of Heating Circuit 1 1
1M1 Circuit 1 of mixed valve OPEN 2
1M1 Circuit 1 of mixed valve CLOSED 3

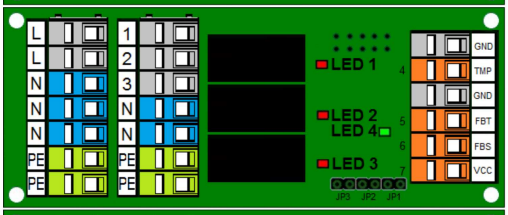


Heating Module Circuit 1

GND
TMP **1T1** Flow temperature Circuit 1
GND Room remote control circuit 1
FBT Remote control room temperature
FBS Remote control signal
VCC Remote control supply

Outputs 230VAC

2P1 Pump of Heating Circuit 2 1
2M1 Circuit 2 of mixed valve OPEN 2
2M1 Circuit 2 of mixed valve CLOSED 3

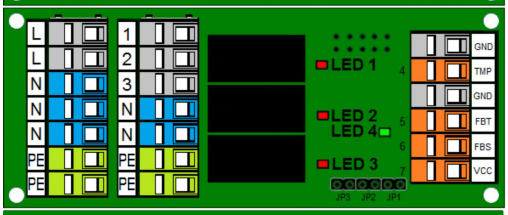


Heating Module Circuit 2

GND
TMP **2T1** Flow temperature Circuit 2
GND Room remote control circuit 2
FBT Remote control room temperature
FBS Remote control signal
VCC Remote control supply

Outputs 230VAC

3P1 Pump of Heating Circuit 3 1
3M1 Circuit 3 of mixed valve OPEN 2
3M1 Circuit 3 of mixed valve CLOSED 3



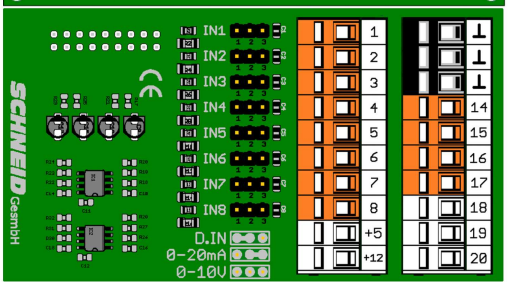
Heating Module Circuit 3

GND
TMP **3T1** Flow temperature Circuit 3
GND Room remote control circuit 3
FBT Remote control room temperature
FBS Remote control signal
VCC Remote control supply

AIN - Module

Terminal 1: **AIN 1** 0-10V Circle 1
Terminal 2: **AIN 2** 0-10V Circle 2
Terminal 3: **AIN 3** 0-10V Circle 3
Terminal 4: **IN 4**
Terminal 5: **IN 5**
Terminal 6: **IN 6**
Terminal 7: **IN 7**
Terminal 8: **IN 8**

VCC +5V: Supply 5V
VCC +12V: Supply 12V

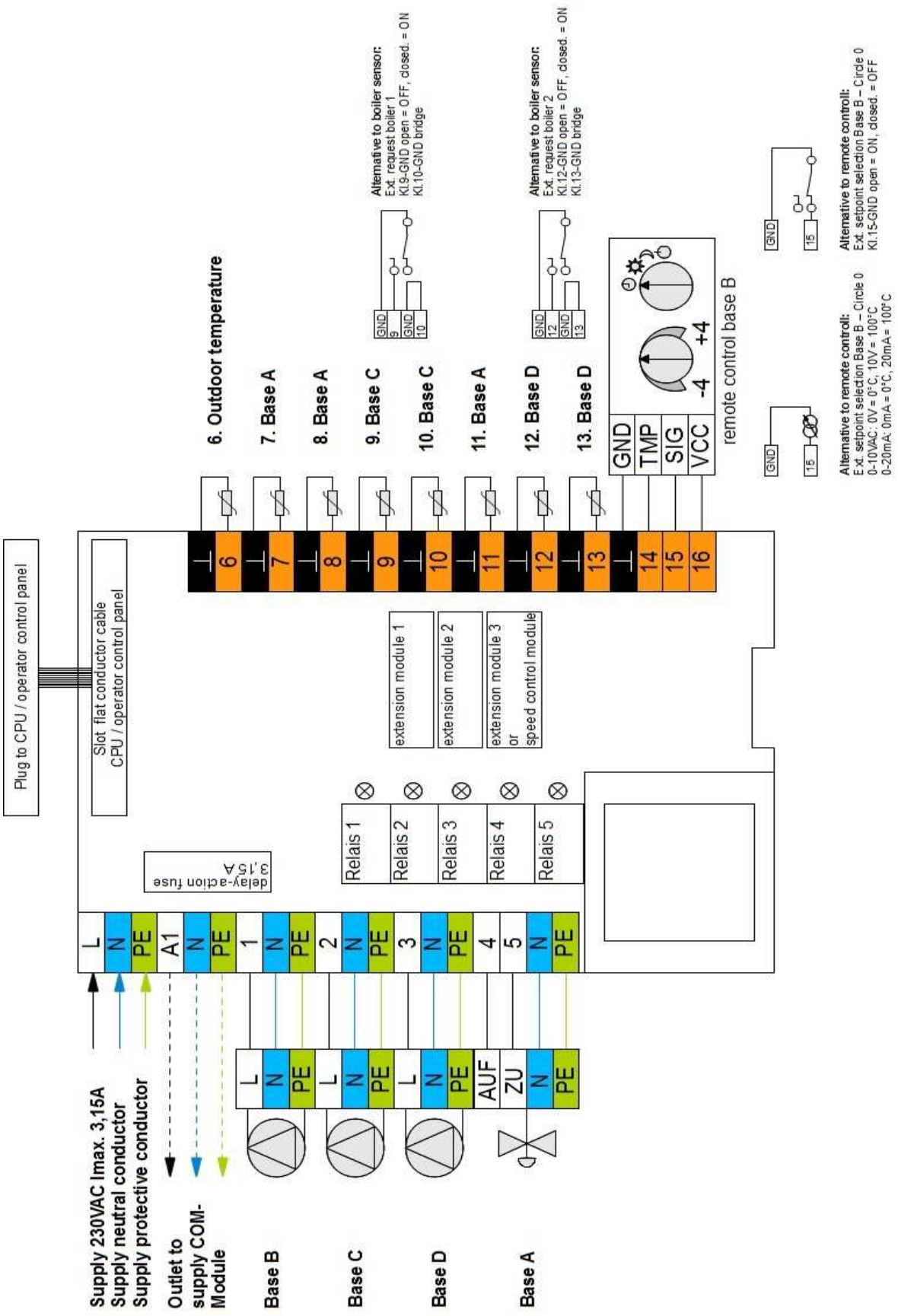


GND Signalground
GND Signalground
GND Signalground

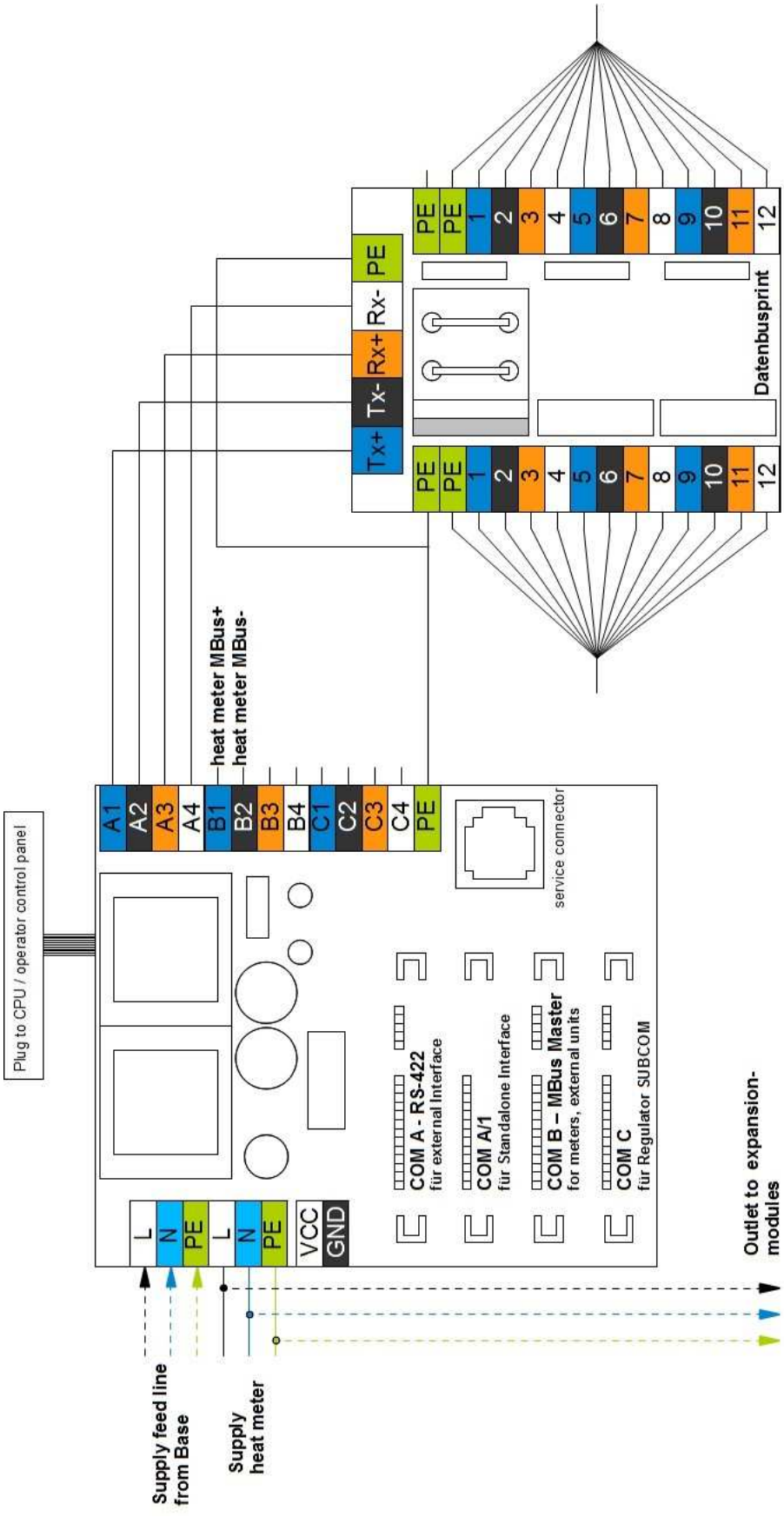
Terminal 14: **AOUT 1** district heating valve
Terminal 15: **AOUT 2** Base C
Terminal 16: **AOUT 3** Base D
Terminal 17: **AOUT 4**

Terminal 18: **DOUT 1** Leak Detector
Terminal 19: **DOUT 2** RESET
Terminal 20: **DOUT 3** Reserve

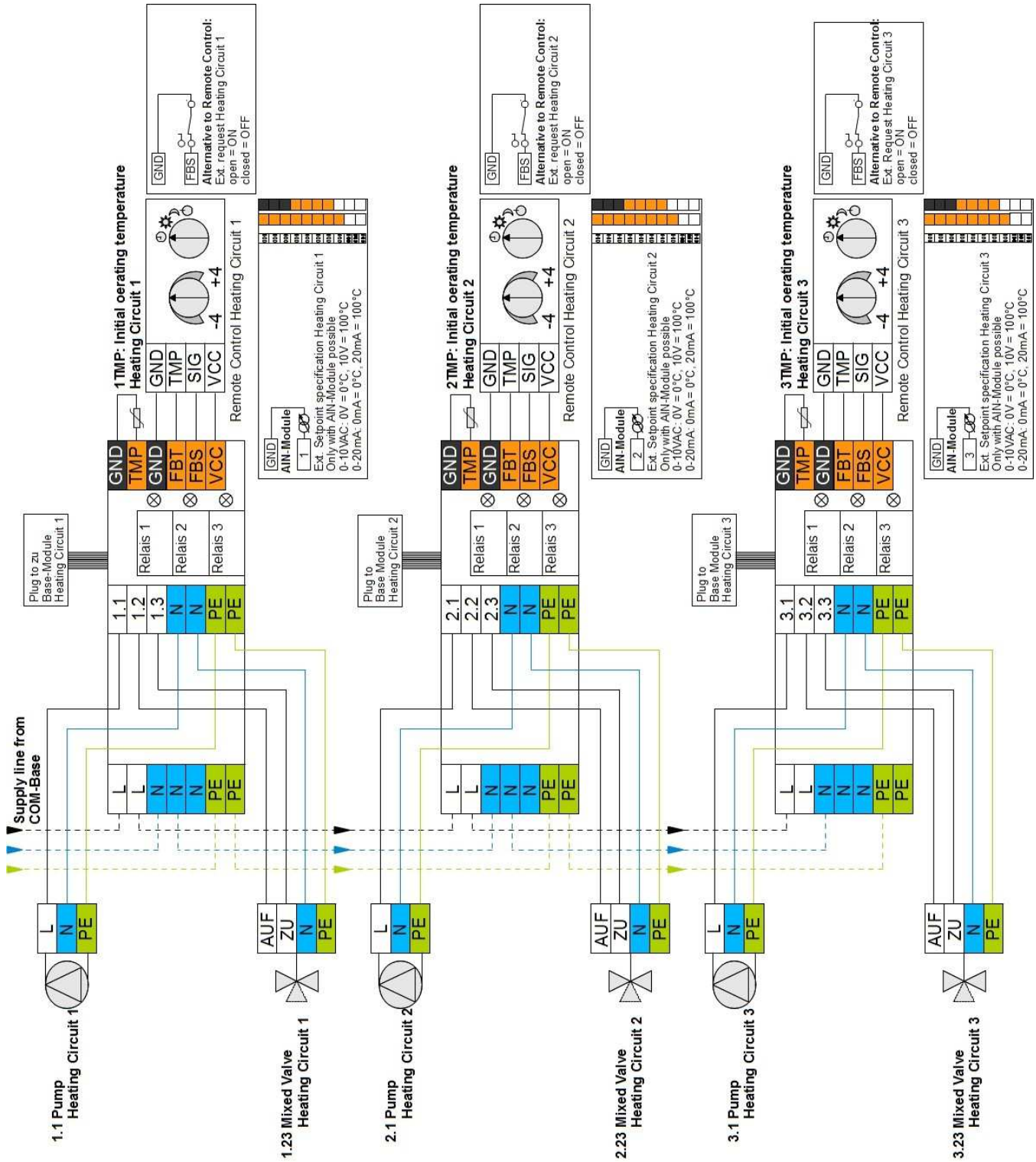
3.3 Cable diagram motherboard



3.4 Cable diagram COM-Basis



3.5 Cable diagram Expansion Modules



3.6 AIN-Module

Function:

The AIN module extends the module regulator MR-08 with analog- and digital inputs and outputs.

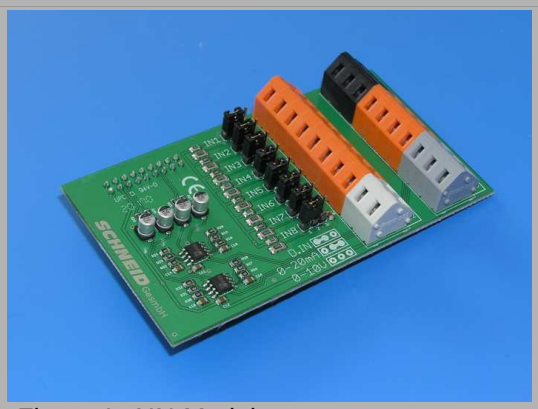
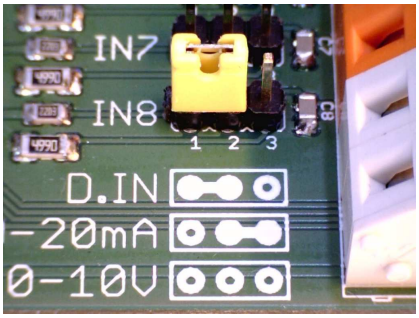


Figure 1: AIN-Modul

Configuration Jumper:

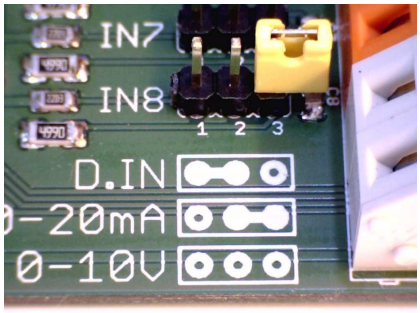
Each of the 8 inputs can be configured to the following type:

digital input



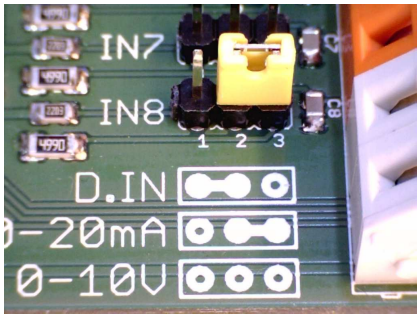
Jumper on 1 and 2

Analog input 0-10V



All links open
Ri => 250kΩ

Analog input 0 (4)-20mA



Jumper on 2 and 3
Ri = 500Ω

Connection diagram :

1	**Input 1** (Digital: 0-10V oder 0-20mA)	⊥	**GND** Signalground
2	**Input 2** (Digital: 0-10V oder 0-20mA)	⊥	**GND** Signalground
3	**Input 3** (Digital: 0-10V oder 0-20mA)	⊥	**GND** Signalground
4	**Input 4** (Digital: 0-10V oder 0-20mA)	14	**Aout 1** (Analog output 0-10V)
5	**Input 5** (Digital: 0-10V oder 0-20mA)	15	**Aout 2** (Analog output 0-10V)
6	**Input 6** (Digital: 0-10V oder 0-20mA)	16	**Aout 3** (Analog output 0-10V)
7	**Input 7** (Digital: 0-10V oder 0-20mA)	17	**Aout 4** (Analog output 0-10V)
8	**Input 8** (Digital: 0-10V oder 0-20mA)	18	**Dout** LWG (switching output 12V)
+5	**5 VDC** output terminal	19	**Dout** RESET (switching output 12V)
+12	**12 VDC** output terminal	20	**Dout** RES (switching output 12V)

The function of the inputs and outputs is determined by the selected scheme.

3.7 Speed Control Module

There are 2 different speed control modules. The first one owns only one speed control output and the second one owns two speed control outputs. The 2 modules can be distinguished through the black semi-conductor relay.

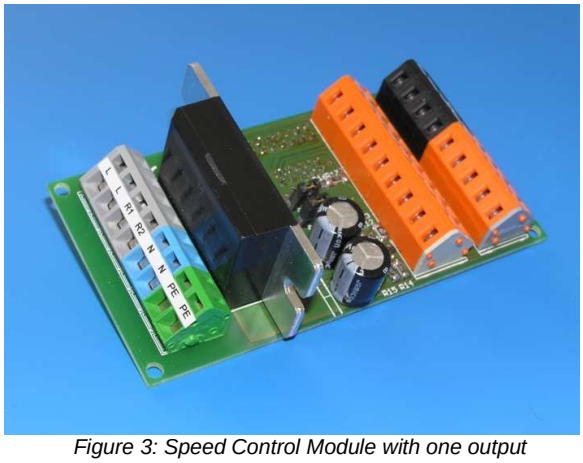


Figure 3: Speed Control Module with one output

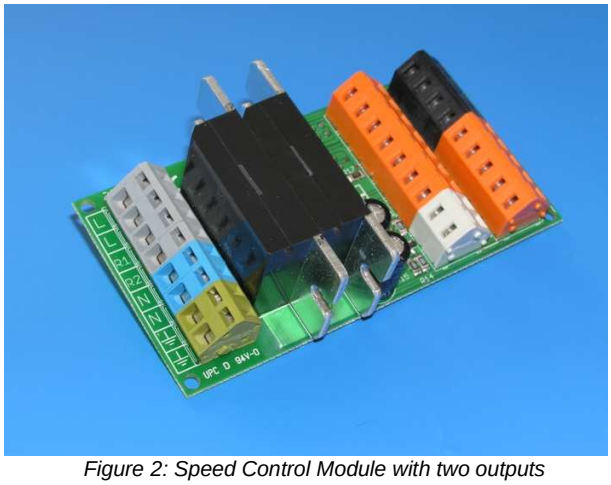
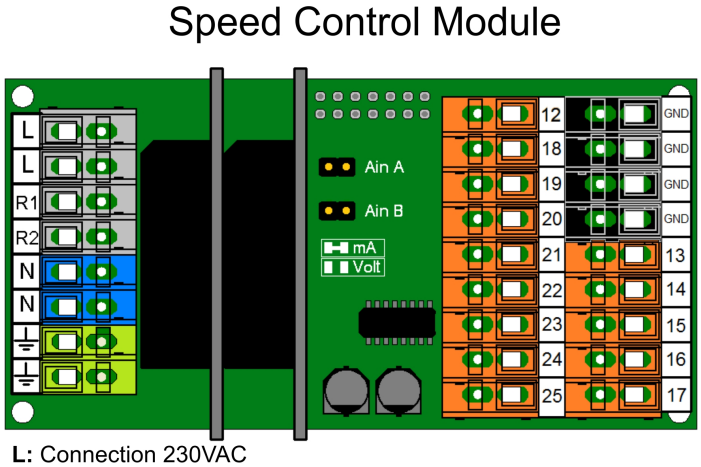


Figure 2: Speed Control Module with two outputs

The additional module owns a half-wave controlled speed control module. The speed control is controlled by ten levels from 0% to 100% through switching off any half-waves by the half-wave relay. Frequent switch-on is always performed in the voltage zero point position, the switch-off in the power zero point position. This triggers a harmonic speed control behavior and a very long life-time as voltage peaks are avoided.

The speed control module is mainly used as control of small monophase ventilators and pumps. The output load is limited to 5A. The maximum performance of the connected motor should not exceed 300 VA (under consideration of the initial current).



L: Connection 230VAC
L: Additional Connection 230VAC
forwarding to further modules
R1: Speed Control Output 1 230VAC (Max. 5A)
R2: Speed Control Output 2 230VAC (Max. 5A)
Connection only possible with design including 2 semi-conductors
N: Neutral Conductor
N: Neutral Conductor
PE: Earth Conductor
PE: Earth Conductor

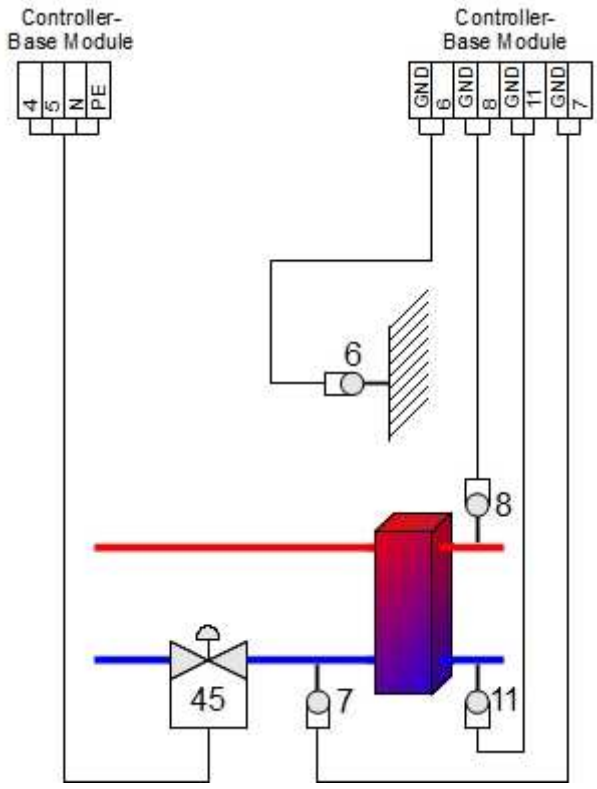
12 Temperature Input PT8
18 Temperature Input PT12
19 Pulse Input für K2 (external puls signal 0/5V)
20 Pulse Input für K1 (external puls signal 0/5V)
21 Output RESET-COM (0/5V fpr COM-MODULE)
22 Digital Output 12V from AOUT1 (threshold > 40%)
23 Digital Output 12V from AOUT2 (threshold > 40%)
24 Output Terminal 5VDC
25 Output Terminal 12VDC

GND Signalground
GND Signalground
GND Signalground
GND Signalground
13 External Input Requirement (switch 0/1 towards GND)
14 AIN-A (0-10V or 0-20mA, depends on Jumper) open = 0-10V
15 AIN-B (0-10V or 0-20mA, depends on Jumper) open = 0-10V
16 AOUT1 (0-5V) at FPD analog to speed control signal
17 AOUT2

4 Base-A

4.1 District Heating

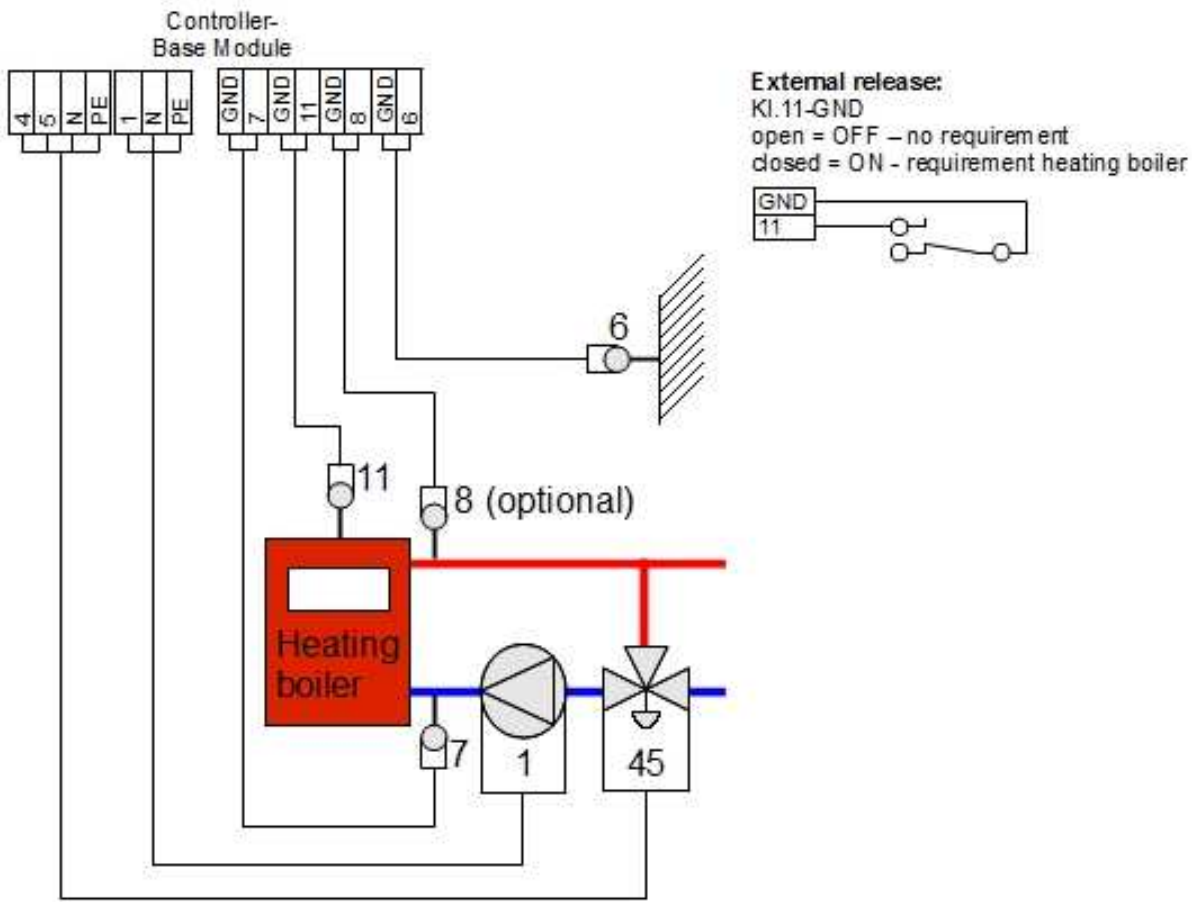
Schema-Number: 1-x-x-x-x-x-x



Parame-ter	Definition	Factory-setting		
46	Timer DH-Valve	15 s		
47	Factor DH-Valve	3		
48	Factor DH-Valve at power limitation	1		
49	Running time DH-Valve	120 sec		
51	Manual Primary Valve	3 = AUTO		
43	Max. return flow temperature at -10°C outside temperature	60°C		
44	Max. return flow temperature at +20°C outside temperature	50°C		
45	Return flow limitation boiler loading	99°C		
52	Return flow temperature difference heat exchanger	99°C		
50	Total setpoint increase	0°C		
42	Maximum power	100 kW		
54	Power limitation	1 = JA		

4.2 Temperatur Control for Base-B - Variant 1

Schema-Number: 1-8-x-x-x-x-x

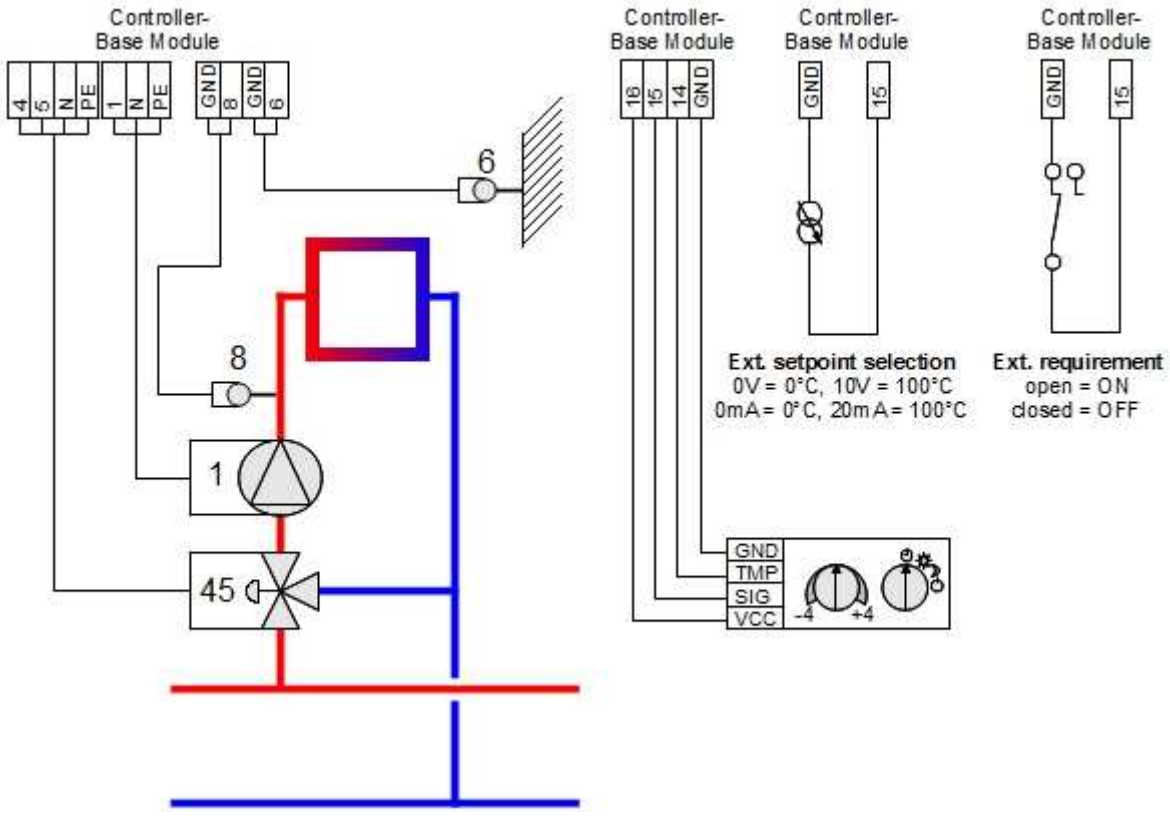


A return flow increase and boiler circuit is possible in combination with Basis A. Temperature input 7 is the return flow sensor of the boiler and controlled on “minimum return flow temperature” with the help of valve 45. The temperature input 8 is the pre-flow sensor of the boiler and controls, if connected, the actual must value with the help of valve 45.
Temperature input 11 is the boiler sensor. Such sensor releases the boiler circuit if the boiler sensor minus return flow sensor is higher than 5°C. The release can also be done through shortcut of the boiler sensor.

Parameter	Definition	Werkseinstellung		
816	Min. return flow boiler (only at all parameters)	65°C		

4.3 Temperature Control for Base-B - Variant 2

Schema-Number: 1-(1-5)-x-x-x-x-x

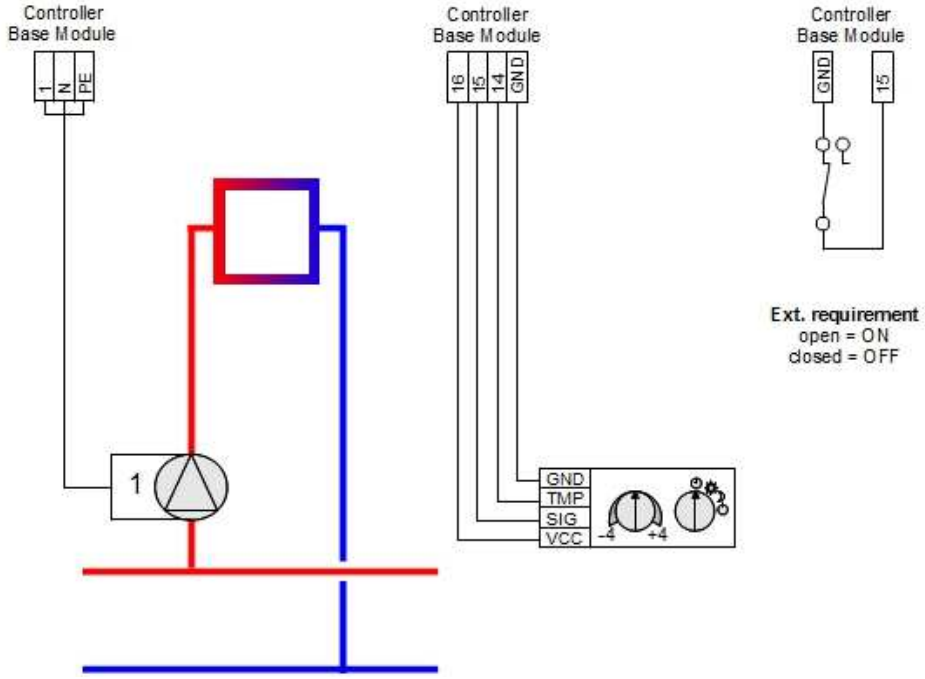


A controlled heating circuit is possible through the combination of Basis A and B. They are shown for parameters depending on the configuration Basis B 1 to 5.

5 Base-B

5.1 Heating Circuit pre-controlled

Schema-Number: x-1-x-x-x-x-x

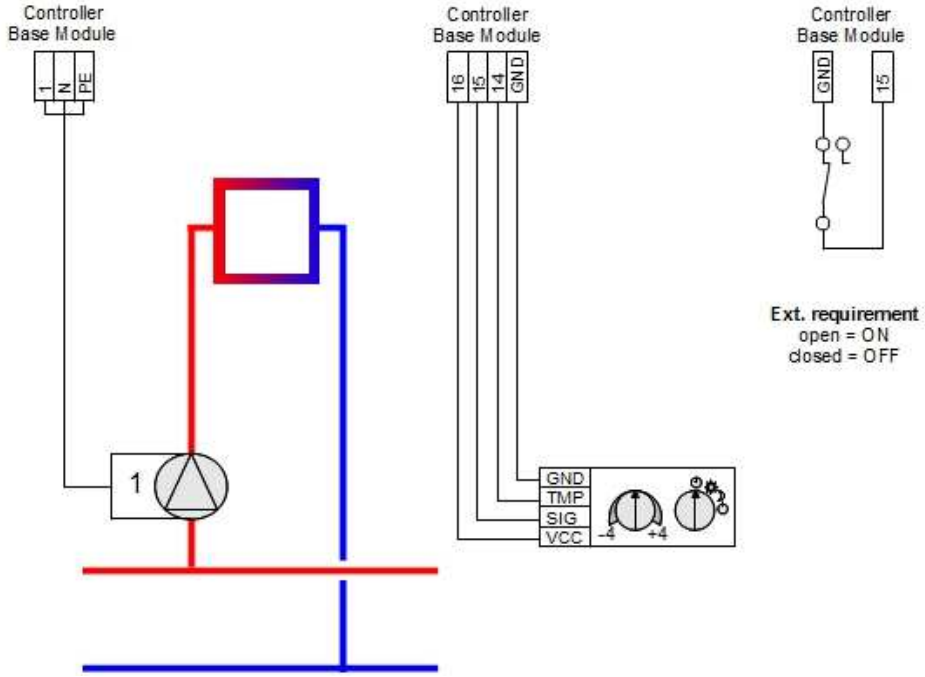


The heating circuit is controlled on an outside temperature dependency due to the configured outside temperature dependent flow temperatures.

Parameter	Definition	Default Setting		
241	Operation mode circuit 1	Selector switch valid		
101	Switch off temp. during day operation	18°C		
102	Switch off temp. at decreasing mode	10°C		
104	Flow temp. at +20°C outside temp.	20°C		
105	Flow temp. at +5°C outside temp.	35°C		
106	Flow temp. at -10°C outside temp.	50°C		
107	Max. flow temperature	90°C		
108	Min. flow temperature	0°C		
257	Decreasing mode correction	0.0°C		
265-306	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
109	Warm water subordinate	Ja		
110	Timer control	15s		
111	Factor control	3		
249	Special circuit?	NO		

5.2 Room control without optimization

Schema-Number: x-2-x-x-x-x

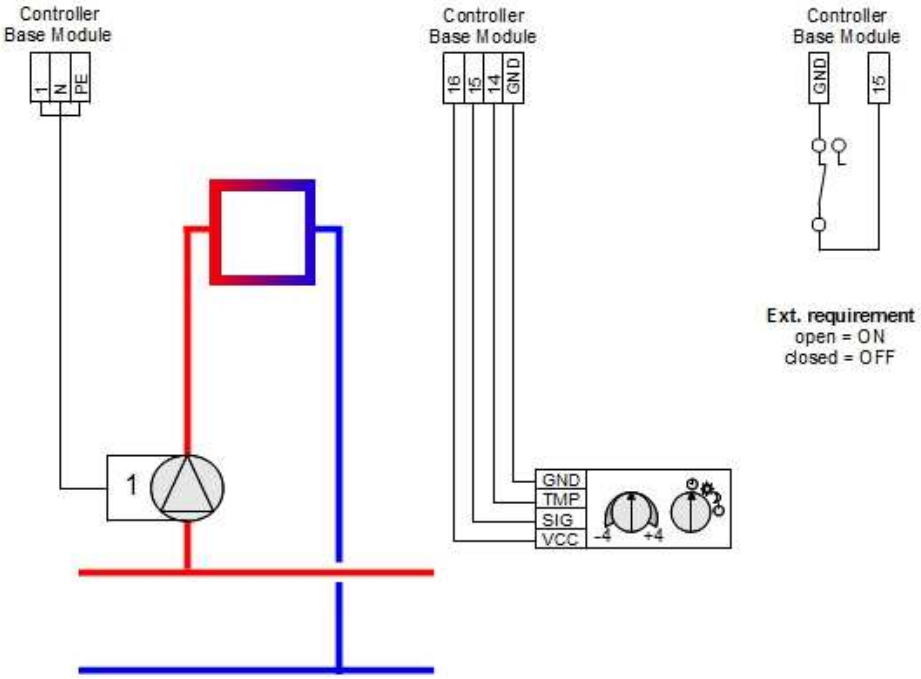


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve.

Parameter	Definition	Default Setting		
241	Operation mode circuit 1	Selector switch valid		
103	Room must temperature	20.0°C		
112	Room influence	50%		
113	Room temp. control factor	3		
114	Offset room temp.	0°C		
101	Switch off temp. during day operation	18°C		
102	Switch off temp. at decreasing mode	10°C		
104	Flow temp. at +20°C outside temp.	20°C		
105	Flow temp. at +5°C outside temp.	35°C		
106	Flow temp. at -10°C outside temp	50°C		
107	Max. flow temperature	90°C		
108	Min. flow temperature	0°C		
257	Decreasing mode correction	0.0°C		
265-306	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
109	Warm water subordinate	Ja		
110	Timer control	15s		
111	Factor control	3		
249	Special circuit?	NO		

5.3 Room Control with optimisation

Schema-Number: x-3-x-x-x-x

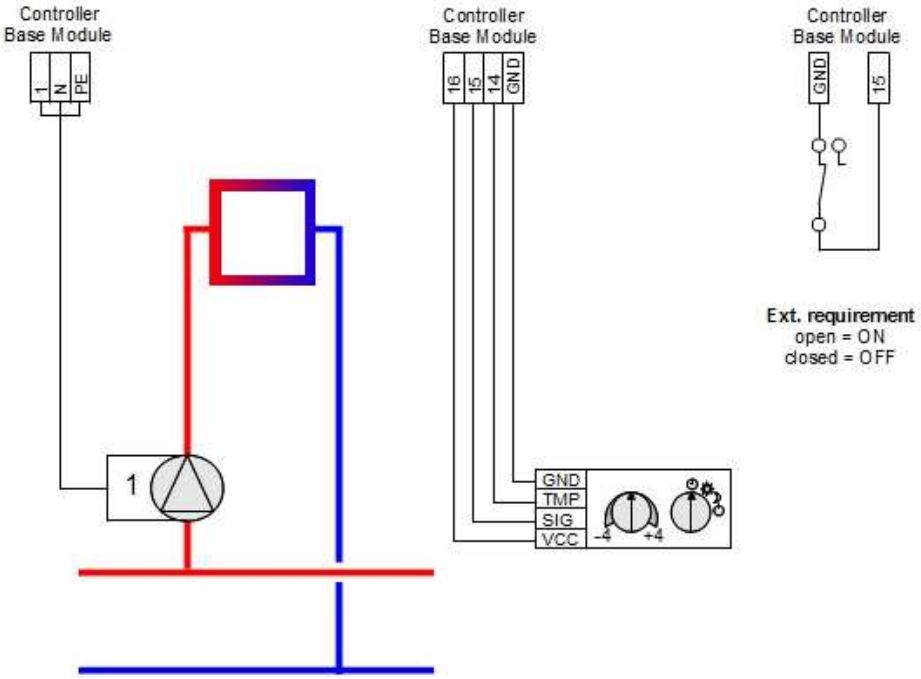


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve. Optimization of the decreasing and heating times are done in addition in order to reach the room temperature at the beginning of the heating times.

Parameter	Definition	Default Setting		
241	Operation mode circuit 1	Selector switch valid		
103	Room must temperature	20.0°C		
112	Room influence	50%		
113	Room temp. control factor	3		
114	Offset room temp.	0°C		
101	Switch off temp. during day operation	18°C		
102	Switch off temp. at decreasing mode	10°C		
104	Flow temp. at +20°C outside temp.	20°C		
105	Flow temp. at +5°C outside temp.	35°C		
106	Flow temp. at -10°C outside temp.	50°C		
107	Max. flow temperature	90°C		
108	Min. flow temperature	0°C		
257	Decreasing mode correction	0.0°C		
265-306	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
109	Warm water subordinate	Ja		
110	Timer control	15s		
111	Factor control	3		
249	Special circuit?	NO		

5.4 Room Thermostat

Schema-Number: x-4-x-x-x-x-x

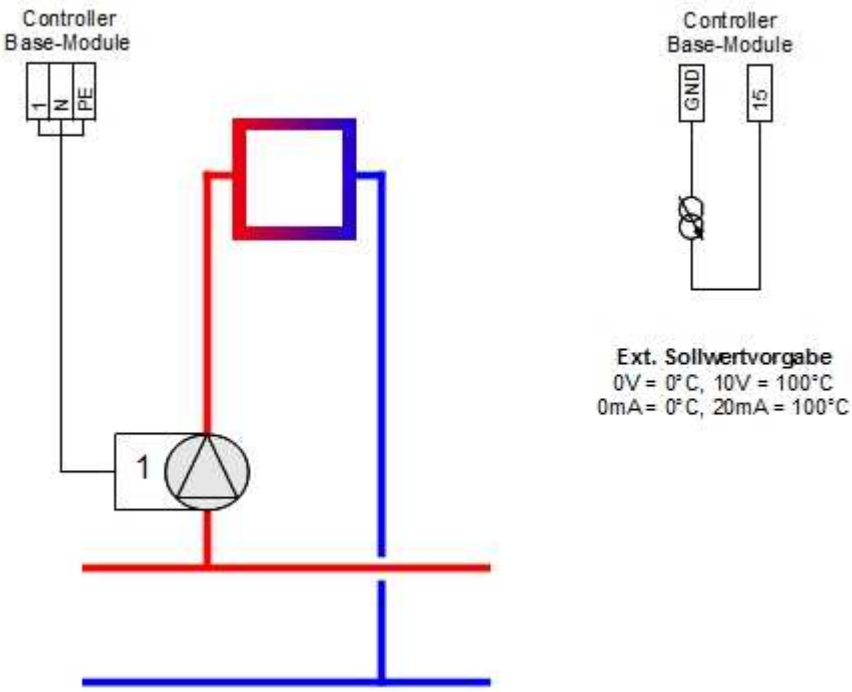


This setting is used if the function of a room thermostat shall be reached with a SCHNEID remote control. The external release function is applied for room thermostats presenting a close / open contact.

Parameter	Definition	Default Setting		
241	Operation mode circuit 1	Selector switch valid		
103	Room must temperature	20.0°C		
112	Room influence	50%		
113	Room temp. control factor	3		
114	Offset room temp.	0°C		
101	Switch off temp. during day operation	18°C		
102	Switch off temp. at decreasing mode	10°C		
104	Flow temp. at +20°C outside temp.	20°C		
105	Flow temp. at +5°C outside temp.	35°C		
106	Flow temp. at -10°C outside temp.	50°C		
107	Max. flow temperature	90°C		
108	Min. flow temperature	0°C		
257	Decreasing mode correction	0.0°C		
265-306	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
109	Warm water subordinate	Ja		
110	Timer control	15s		
111	Factor control	3		
249	Special circuit?	NO		

5.5 External set-point selection 0-10V / 0-20mA

Schema-Number: x-5-x-x-x-x-x



The flow must value for the heating circuit is determined externally through a 0-10V analogue signal. The connection is done on the signal input at the remote control for circuit 0.

Parameter	Definition	Default Setting		
241	Operation mode circuit 1	Selector switch valid		
101	Switch off temp. during day operation	18°C		
102	Switch off temp. at decreasing mode	10°C		
104	Flow temp. at +20°C outside temp.	20°C		
105	Flow temp. at +5°C outside temp.	35°C		
106	Flow temp. at -10°C outside temp.	50°C		
107	Max. flow temperature	90°C		
108	Min. flow temperature	0°C		
257	Decreasing mode correction	0.0°C		
265-306	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
109	Warm water subordinate	Ja		
110	Timer control	15s		
111	Factor control	3		
249	Special circuit?	NEIN		

5.6 Intermediate circuit long-distance heating without pump

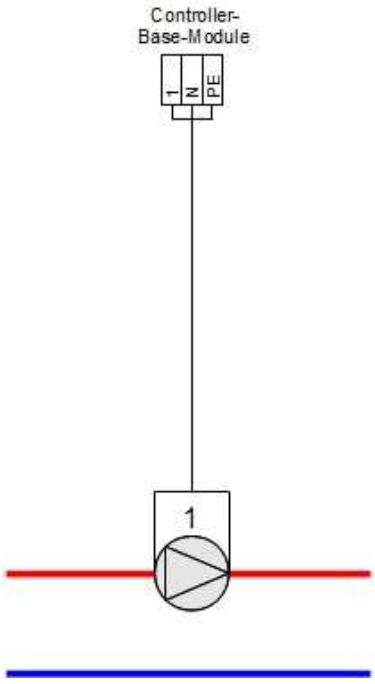
Schema-Number: x-6-x-x-x-x

The intermediate circuit is between the transmission station and the other circuits. Its must flow results from the highest must flow of the remaining circuits. In addition, an increase of the must flow can be added to the adopted highest must flow.

Parameter	Definition	Default Setting		
50	Total must value increase	0°C		

5.7 Intermediate long-distance heating with pump

Schema-Number: x-7-x-x-x-x-x



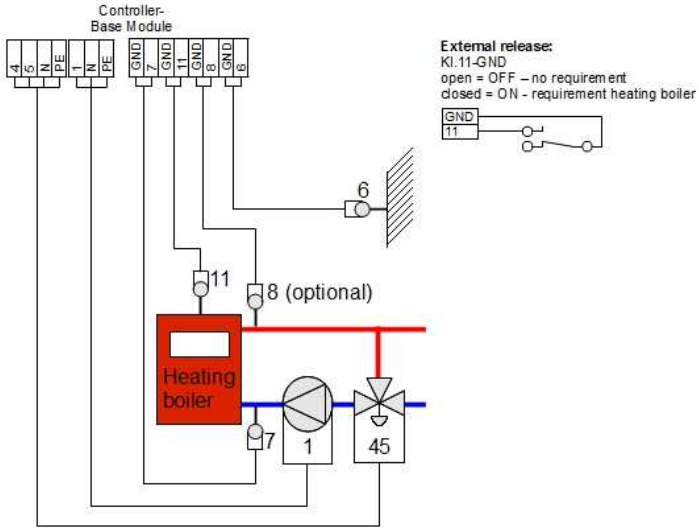
The intermediate circuit pump starts upon existence of a heating requirement. The requirement exists as soon as the secondary must flow is higher than 0.

Parameter	Definition	Default Setting		
50	Total setpoint increase	0°C		

5.8 Return flow increase with valve 45

Schema-Number: x-8-x-x-x-x-x

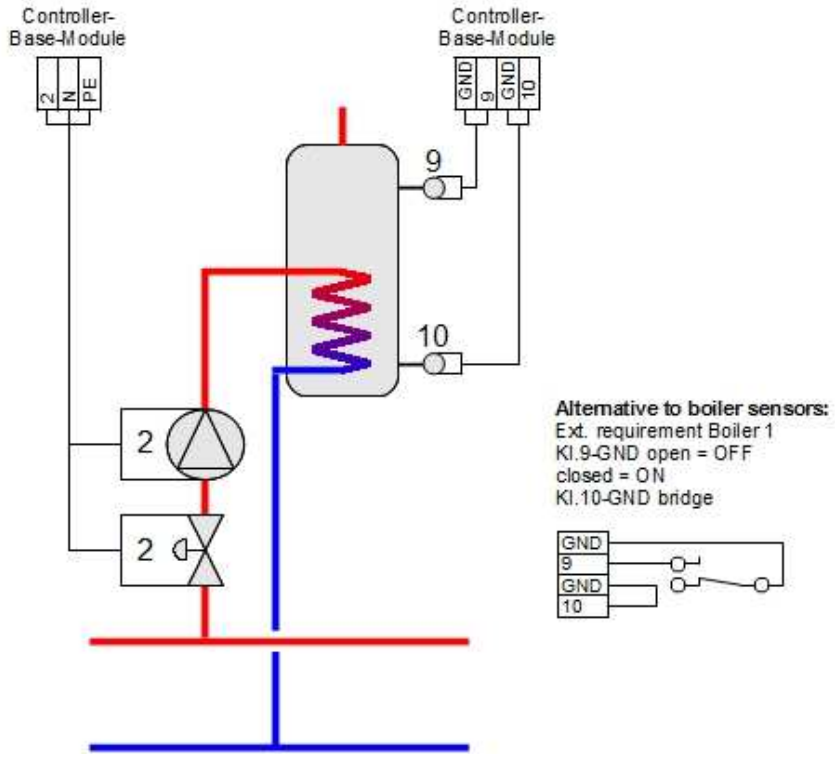
Configuration see Basis A 2 – Variation 1 page 17.



6 Base-C

6.1 WW register storage with pump or globe valve

Schema-Number: x-x-1-x-x-x-x

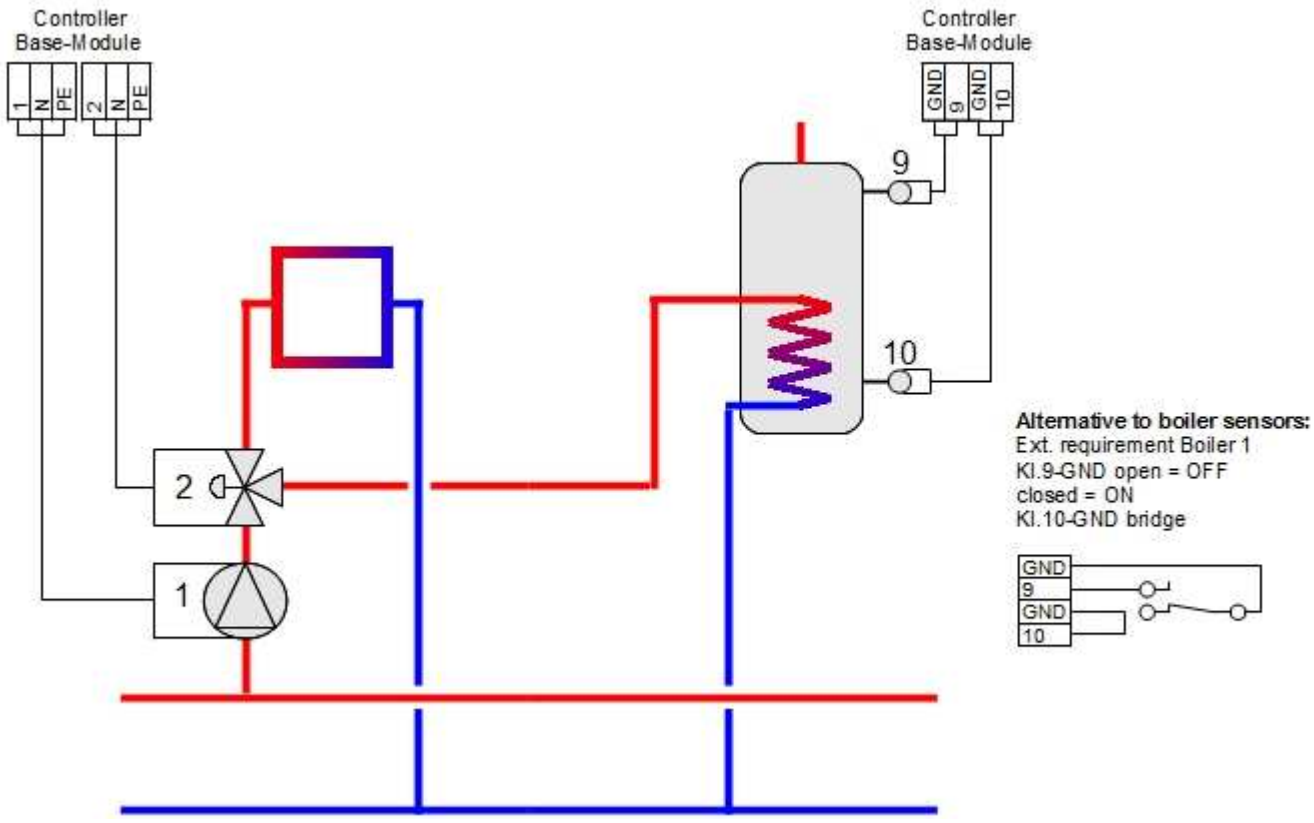


The boiler load is done through a pump or a globe valve, which switches on and opens respectively according to requirements.

Parameter	Definition	Default Setting		
88	Over-travel time boiler pump	0 min		
89	Boiler load type	Up to setpoint temperature		
90	Boiler blockage	Up to boiler temp.		
81	Boiler setpoint temp.	55°C		
82	Boiler minimum temp.	45°C		
84	Boiler load temp. at setpoint load	65°C		
85	Boiler load temp. at minimum load	65°C		
86	Legionella load	Nein		
87	Hysterese Boiler im Ladezeitraum	3°C		
83	Boiler shut-off temp. lower boiler sensor	99°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		

6.2 Switching valve WW load through pump 1

Schema-Number: x-x-2-x-x-x-x

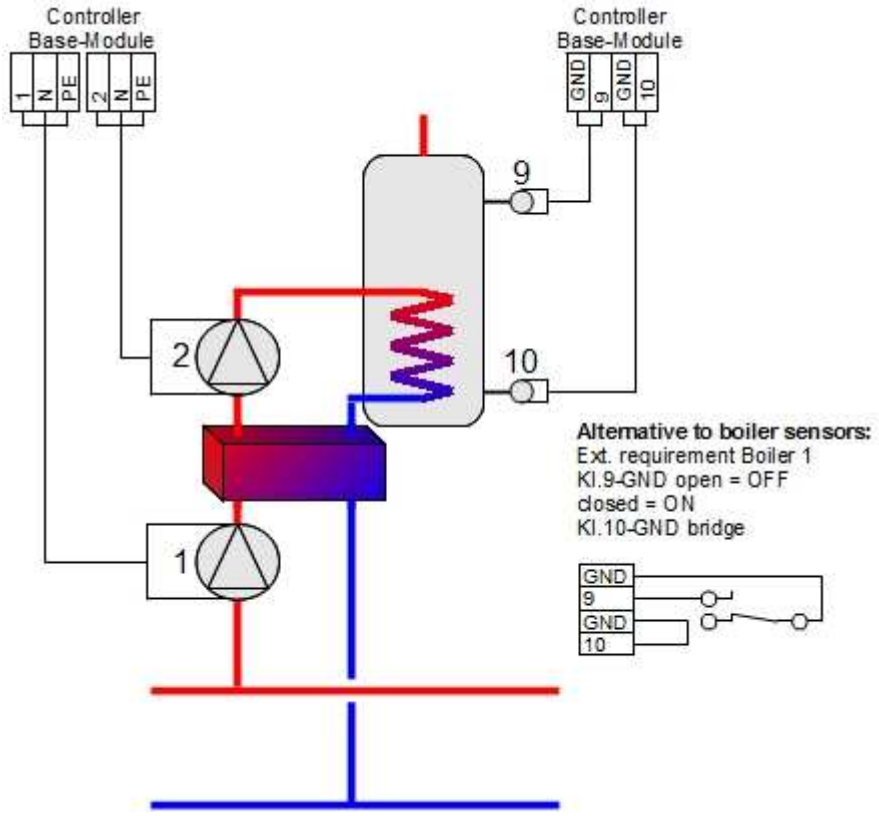


The boiler load is done through a switching valve and a pump. The valve switches and the pump turns on unless already activated through the basis heating circuit (heating circuit 0) at requirement.

Parameter	Definition	Default Setting		
88	Over-travel time boiler pump	0 min		
89	Boiler load type	Up to setpoint temperature		
90	Boiler blockage	Up to boiler temp.		
81	Boiler setpoint temp.	55°C		
82	Boiler minimum temp.	45°C		
84	Boiler load temp. at setpoint load	65°C		
85	Boiler load temp. at minimum load	65°C		
86	Legionella load	Nein		
87	Hysterese Boiler im Ladezeitraum	3°C		
83	Boiler shut-off temp. lower boiler sensor	99°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		

6.3 WW load module pre-controlled through pump 1

Schema-Number: x-x-3-x-x-x-x

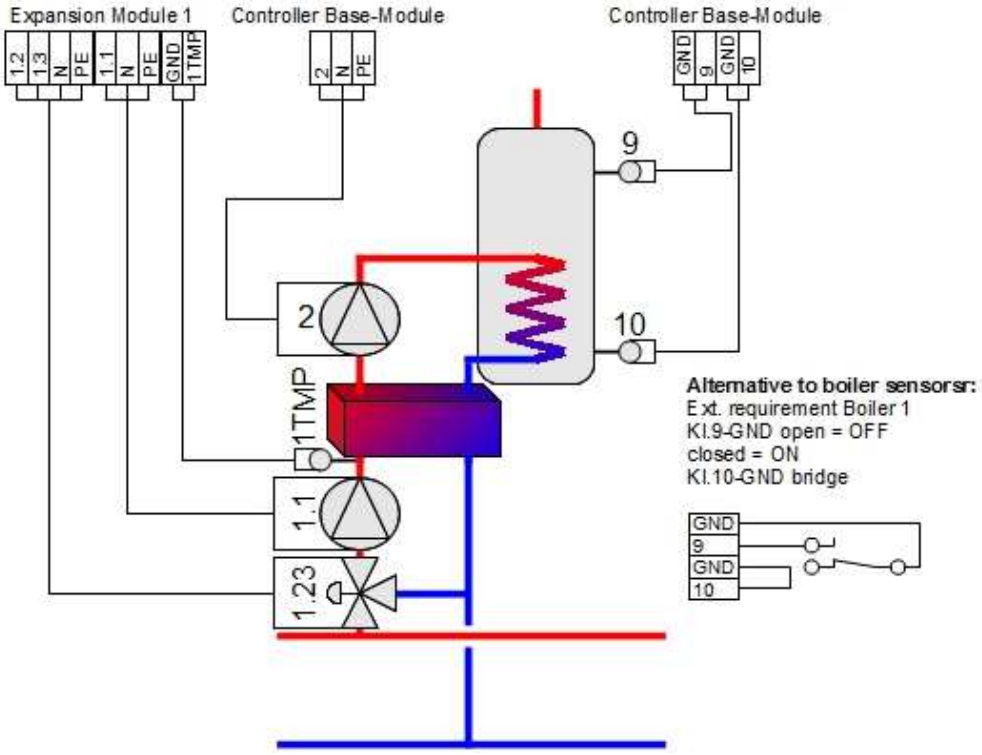


If requirement exists for a boiler load, pump 1 is activated until the secondary must flow (T8) is reached. Only after reaching the secondary must flow does the boiler pump (pump 2) start loading.

Parameter	Definition	Default Setting		
88	Over-travel time boiler pump	0 min		
89	Boiler load type	Up to setpoint temperature		
90	Boiler blockage	Up to boiler temp.		
81	Boiler setpoint temp.	55°C		
82	Boiler minimum temp.	45°C		
84	Boiler load temp. at setpoint load	65°C		
85	Boiler load temp. at minimum load	65°C		
86	Legionella load	Nein		
87	Hysterese Boiler im Ladezeitraum	3°C		
83	Boiler shut-off temp. lower boiler sensor	99°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		

6.4 WW load module controlled on extension module 1

Schema-Number: x-x-4-x-6-x-x



Pump 1.1 is activated until desired load temperature has been reached at 1 TMP, the requirement for a boiler load. The boiler pump (pump 2) starts loading after the temperature has been reached.

6.4.1 Parameter Boiler 1

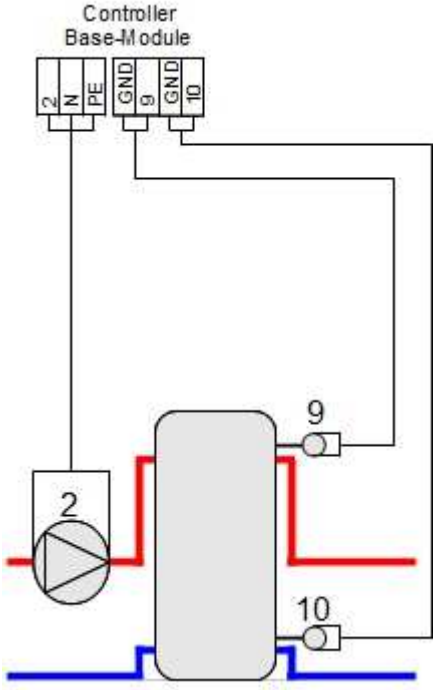
Parameter	Definition	Default Setting		
88	Over-travel time boiler pump	0 min		
89	Boiler load type	Up to setpoint temperature		
90	Boiler blockage	Up to boiler temp.		
81	Boiler setpoint temp.	55°C		
82	Boiler minimum temp.	45°C		
84	Boiler load temp. at setpoint load	65°C		
85	Boiler load temp. at minimum load	65°C		
86	Legionella load	Nein		
87	Hysterese Boiler im Ladezeitraum	3°C		
83	Boiler shut-off temp. lower boiler sensor	99°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		

6.4.2 Parameter Lademodul geregelt

Parameter	Definition	Default Setting		
124	Timer control	15s		
125	Factor control	3		

6.5 Buffer storage tank

Schema-Number: x-x-5-x-x-x

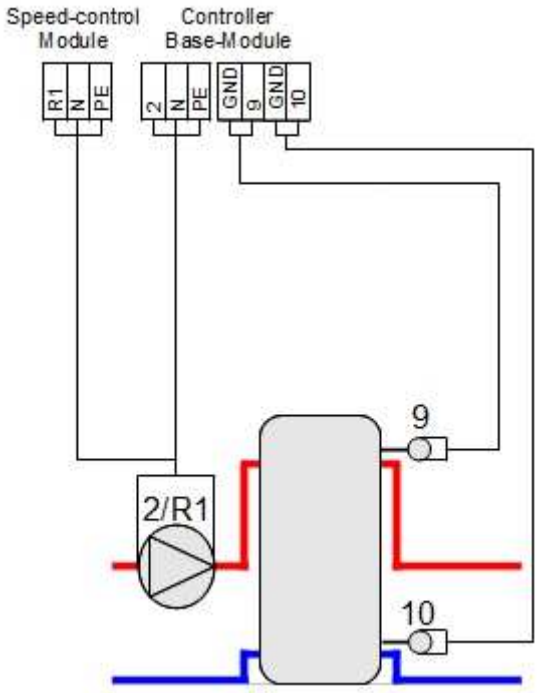


The space heating storage tank (buffer amplifier amplifier) is constantly held on temperature and fast provision in case of guaranteed requirement.

Parameter	Definition	Default Setting		
55	P band speed control load pump	10°C		
57	Min. speed control pump	30%		
58	Manual operation pump	101% = AUTO		
56	Min. upper buffer temp.	50°C		
60	Hyst. max. return flow temp. buffer OFF	-5°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		
59	Operation mode butter (configuration only possible in basic setting)	0 = Standard		

6.6 Buffer storage tank – pump speed controlled

Schema-Number: x-x-5-x-x-6

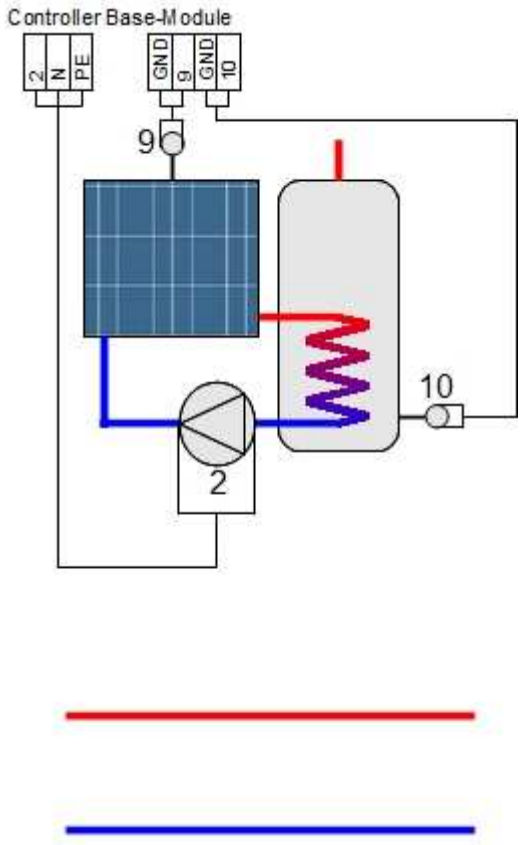


The space heating storage tank (buffer amplifier amplifier) is constantly held on temperature and fast provision in case of guaranteed requirement. The pump is speed controlled and enables a better layering of the buffer amplifier as well as an exact adjustment of the return flow temperature.

Parameter	Definition	Default Setting		
55	P band speed control load pump	10°C		
57	Min. speed control pump	30%		
58	Manual operation pump	101% = AUTO		
56	Min. upper buffer temp.	50°C		
60	Hyst. max. return flow temp. buffer OFF	-5°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		
59	Operation mode butter (configuration only possible in basic setting)	0 = Standard		

6.7 Difference controller Solar

Schema-Number: x-x-6-x-x-x-x

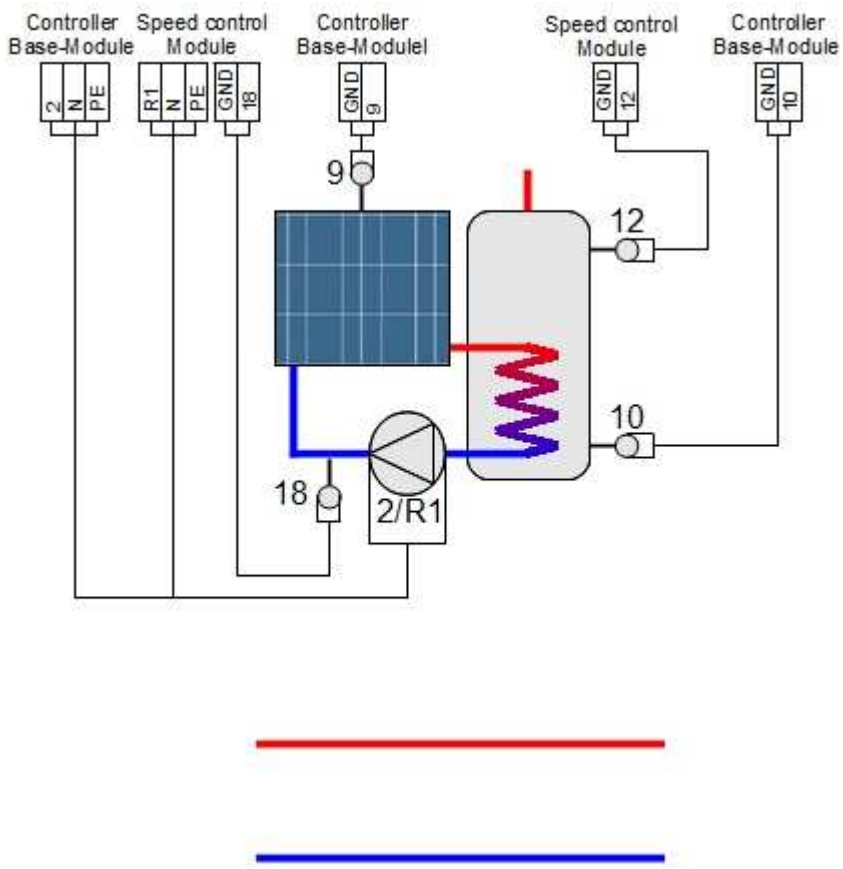


Load is done as soon as the collector sensor around the difference buffer amplifier collector is higher than the lower storage temperature.

Parameter	Definition	Default Setting		
18	Manual solar pump	101% = Auto		
19	Min. speed control pump	30%		
16	Max. collector temp.	150°C		
17	Diff. Buffer amplifier collector	15°C		

6.8 Difference controller solar pump speed controlled

Schema-Number: x-x-6-x-x-x-6

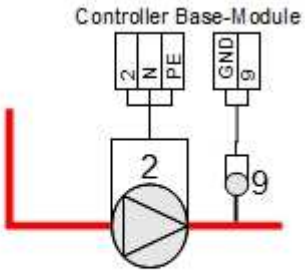


Load is done as soon as the collector sensor around the difference buffer amplifier collector is higher than the lower storage temperature. The speed control regulates the flow temperature and effectuates, and therefore, achieves a better effectiveness of the solar facility.

Parameter	Definition	Default Setting		
18	Manual solar pump	101% = Auto		
19	Min. speed control pump	30%		
16	Max. collector temp.	150°C		
17	Diff. Buffer amplifier collector	15°C		

6.9 WW circulation pump

Schema-Number: x-x-7-x-x-x-x

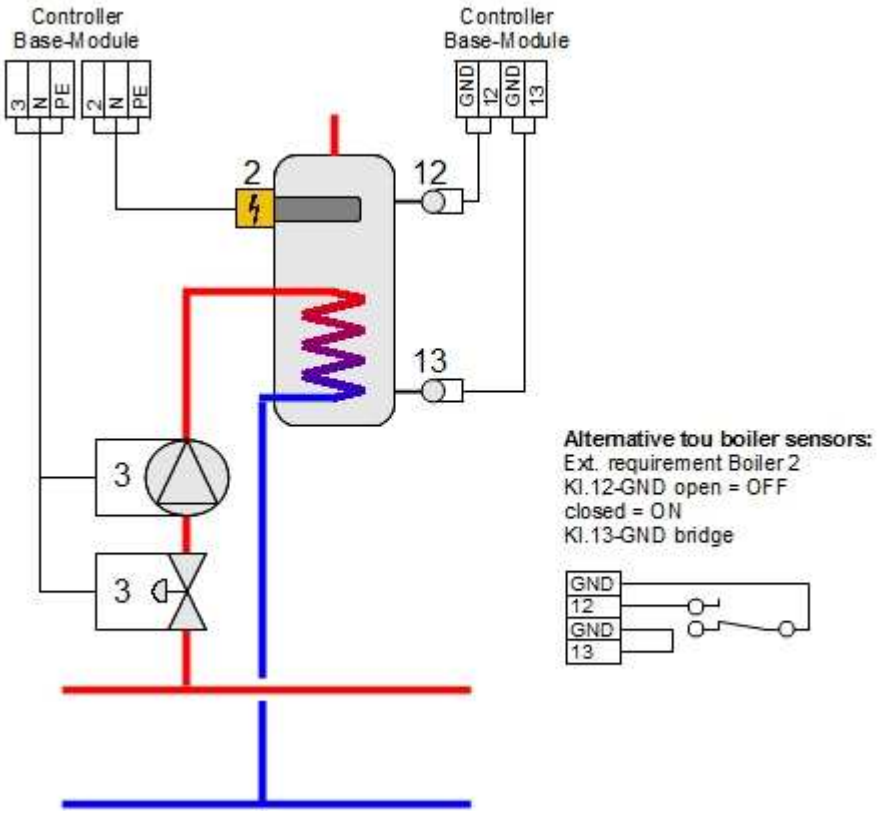


The circulation pump is responsible for the warm water flow. The warm water cools down by remaining in the pipes and only cold water flows at the beginning when turning on the water. The circulation pump prevents the water from cooling down through circulation.
Please note that configuration is only possible for one circulation pump.

Parameter	Definition	Default Setting		
235-236	Circulation time 1	12:00 - 12:00		
237-238	Circulation time 2	12:00 - 12:00		
239-240	Circulation time 3	12:00 - 12:00		
27	Turn on temp. WW circulation pump	30°C		

6.10 Release for external WW load

Schema-Number: x-x-8-x-x-x-x



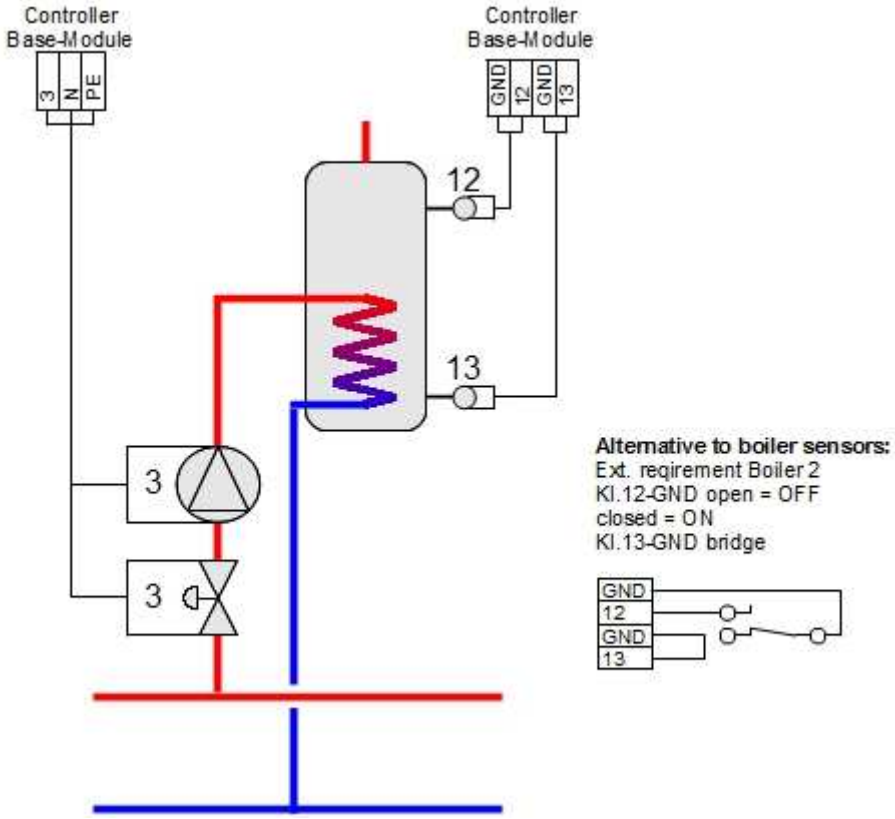
If the load temperature set is not reached after the timeout, the release for an external warm water load, e.g. through E fuse (electric heating) is given.

Parameter	Definition	Default Setting		
815	Timeout ext. Boilerladung	10min		

7 Base-D

7.1 WW register storage with pump or globe valve

Schema-Number: x-x-x-1-x-x-x

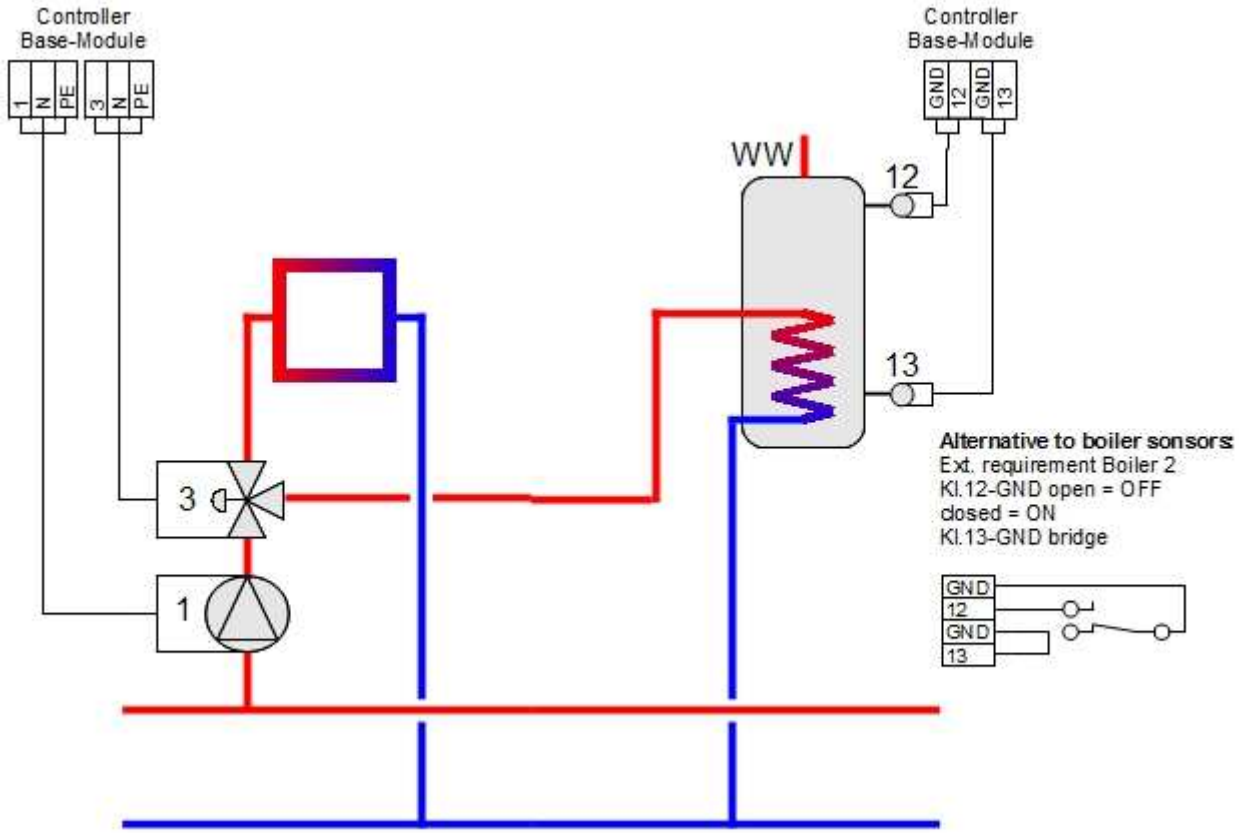


The boiler load is done through a pump or a globe valve, which switches on and opens respectively according to requirements.

Parameter	Definition	Default Setting		
98	Over-travel time boiler pump	0 min		
99	Boiler load type	Up to setpoint temperature		
100	Boiler blockage	Up to boiler temp.		
91	Boiler must temp.	55°C		
92	Boiler minimum temp.	45°C		
94	Boiler load temp. at must load	65°C		
95	Boiler load temp. at minimum load	65°C		
96	Legionella load	Nein		
97	Hysteresis boiler load time	3°C		
93	Boiler shut-off temp. lower boiler sensor	99°C		
229-230	Load time 1 storage 2	12:00 - 12:00		
231-232	Load time 2 storage 2	12:00 - 12:00		
233-234	Load time 3 storage 2	12:00 - 12:00		

7.2 Switching valve WW load through pump 1

Schema-Number: x-x-x-2-x-x-x

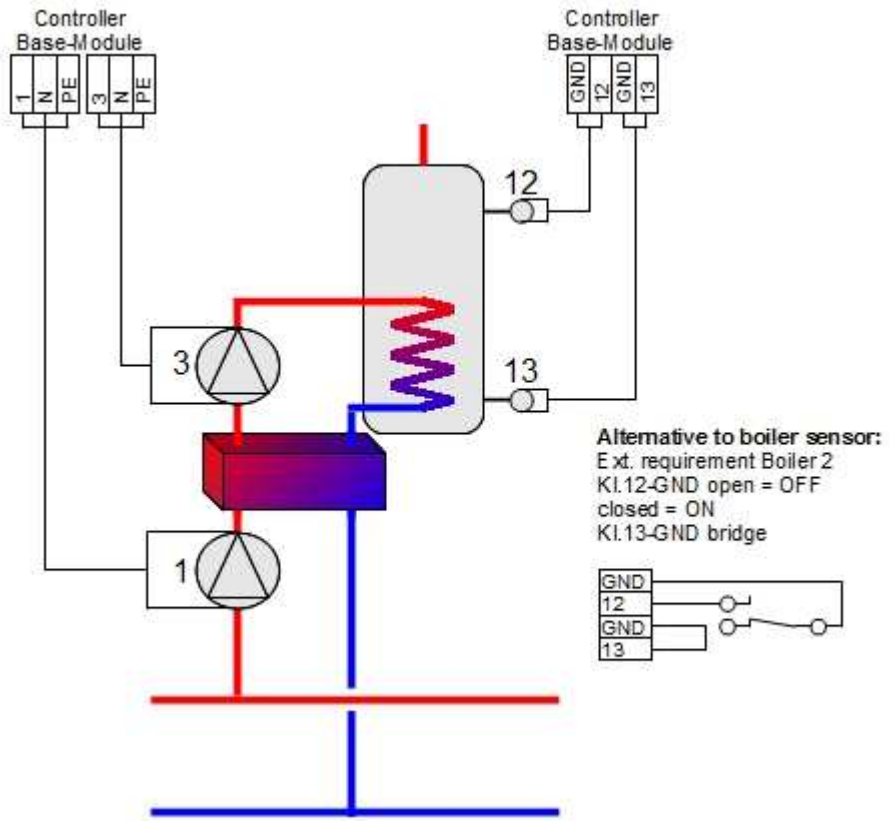


The boiler load is done through a switching valve and a pump. The valve switches and the pump turns on unless already activated through the basis heating circuit (heating circuit 0) at requirement.

Parameter	Definition	Default Setting		
98	Over-travel time boiler pump	0 min		
99	Boiler load type	Up to setpoint temperature		
100	Boiler blockage	Up to boiler temp.		
91	Boiler must temp.	55°C		
92	Boiler minimum temp.	45°C		
94	Boiler load temp. at must load	65°C		
95	Boiler load temp. at minimum load	65°C		
96	Legionella load	Nein		
97	Hysteresis boiler load time	3°C		
93	Boiler shut-off temp. lower boiler sensor	99°C		
229-230	Load time 1 storage 2	12:00 - 12:00		
231-232	Load time 2 storage 2	12:00 - 12:00		
233-234	Load time 3 storage 2	12:00 - 12:00		

7.3 WW load module pre-controlled through pump 1

Schema-Number: x-x-x-3-x-x-x

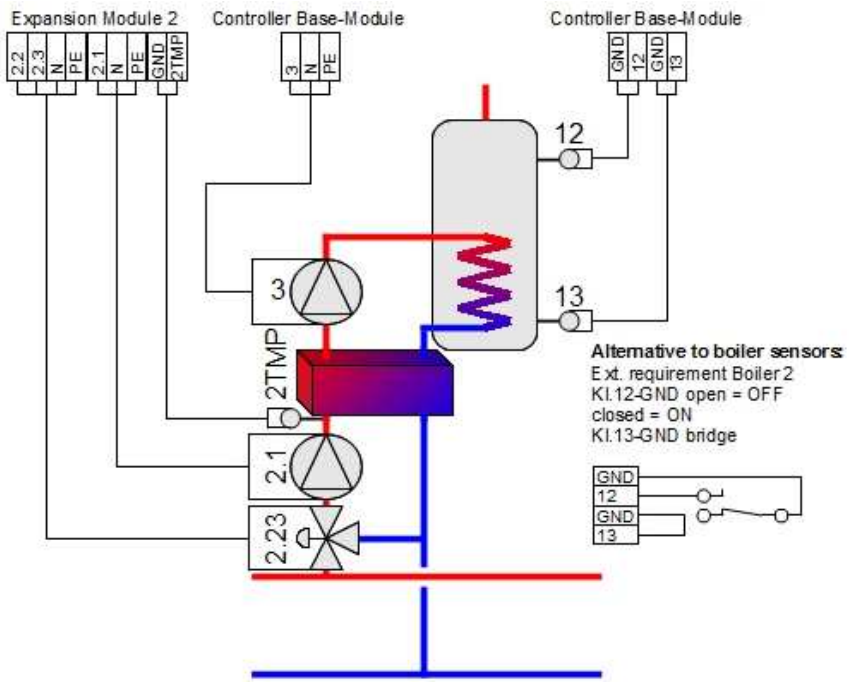


If requirement exists for a boiler load, pump 1 is activated until the secondary must flow (T8) is reached. Only after reaching the secondary must flow does the boiler pump (pump 3) start loading.

Parameter	Definition	Default Setting		
98	Over-travel time boiler pump	0 min		
99	Boiler load type	Up to setpoint temperature		
100	Boiler blockage	Up to boiler temp.		
91	Boiler must temp.	55°C		
92	Boiler minimum temp.	45°C		
94	Boiler load temp. at must load	65°C		
95	Boiler load temp. at minimum load	65°C		
96	Legionella load	Nein		
97	Hysteresis boiler load time	3°C		
93	Boiler shut-off temp. lower boiler sensor	99°C		
229-230	Load time 1 storage 2	12:00 - 12:00		
231-232	Load time 2 storage 2	12:00 - 12:00		
233-234	Load time 3 storage 2	12:00 - 12:00		

7.4 WW load module controlled on extension module 2

Schema-Number: x-x-x-4-x-6-x



If requirement exists for a boiler load, pump 2.1 is activated until the desired load temperature is reached at 2TMP. The boiler pump (pump 3) starts loading after the temperature has been reached.

7.4.1 Parameter Speicher 2

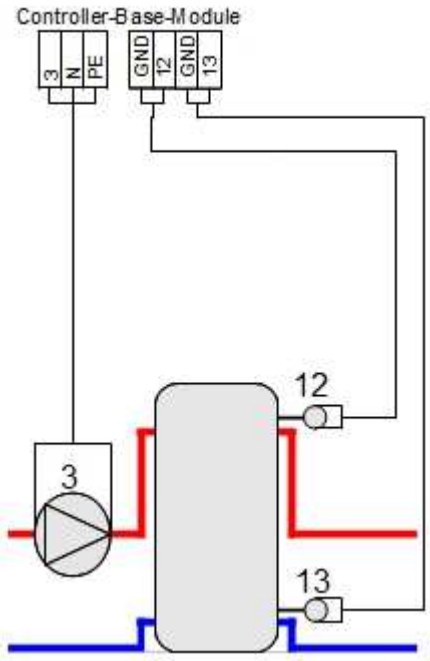
Parameter	Definition	Default Setting		
98	Over-travel time boiler pump	0 min		
99	Boiler load type	Up to setpoint temperature		
100	Boiler blockage	Up to boiler temp.		
91	Boiler must temp.	55°C		
92	Boiler minimum temp.	45°C		
94	Boiler load temp. at must load	65°C		
95	Boiler load temp. at minimum load	65°C		
96	Legionella load	Nein		
97	Hysteresis boiler load time	3°C		
93	Boiler shut-off temp. lower boiler sensor	99°C		
229-230	Load time 1 storage 2	12:00 - 12:00		
231-232	Load time 2 storage 2	12:00 - 12:00		
233-234	Load time 3 storage 2	12:00 - 12:00		

7.4.2 Parameter Lademodul geregelt

Parameter	Definition	Werks-einstellung		
138	Regelung Timer	15s		
139	Regelung Faktor	3		

7.5 Heating storage tank

Schema-Number: x-x-x-5-x-x-x

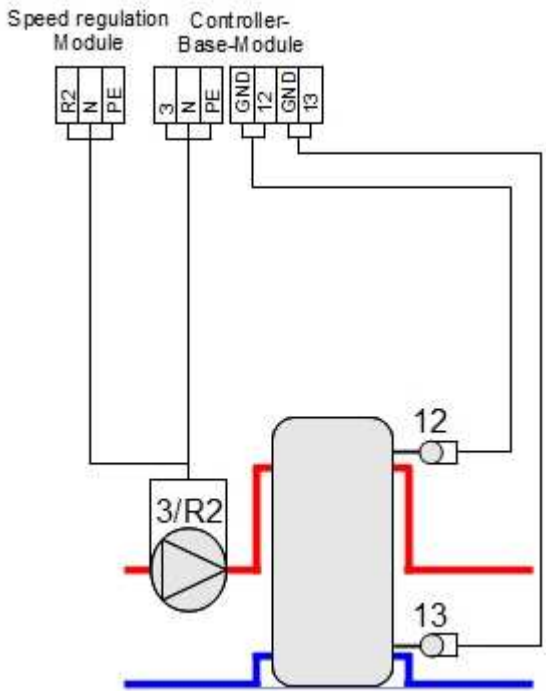


The space heating storage tank (buffer amplifier amplifier) is constantly held on temperature and fast provision in case of guaranteed requirement.

Parameter	Definition	Default Setting		
55	P band speed control load pump	10°C		
57	Min. speed control pump	30%		
58	Manual operation pump	101% = AUTO		
56	Min. upper buffer temp.	50°C		
60	Hyst. max. RL temp. buffer OFF	-5°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		
59	Operation mode butter (configuration only possible in basic setting)	0 = Standard		

7.6 Heating storage tank – pump speed controlled

Schema-Number: x-x-x-5-x-x-6

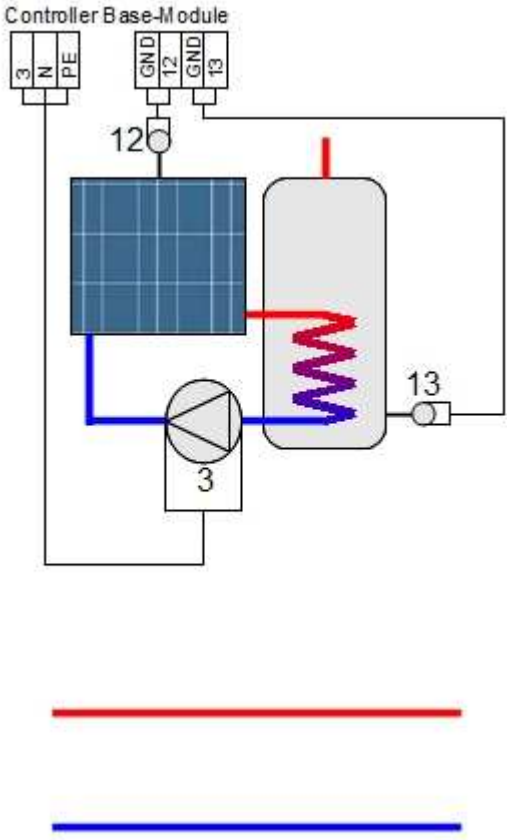


The space heating storage tank (buffer amplifier amplifier) is constantly held on temperature and fast provision in case of guaranteed requirement. The pump is speed controlled and enables a better layering of the buffer amplifier as well as an exact adjustment of the return flow temperature.

Parameter	Definition	Default Setting		
55	P band speed control load pump	10°C		
57	Min. speed control pump	30%		
58	Manual operation pump	101% = AUTO		
56	Min. upper buffer temp.	50°C		
60	Hyst. max. RL temp. buffer OFF	-5°C		
223-224	Load time 1 storage 1	12:00 - 12:00		
225-226	Load time 2 storage 1	12:00 - 12:00		
227-228	Load time 3 storage 1	12:00 - 12:00		
59	Operation mode butter (configuration only possible in basic setting)	0 = Standard		

7.7 Difference controller Solar

Schema-Number: x-x-x-6-x-x-x

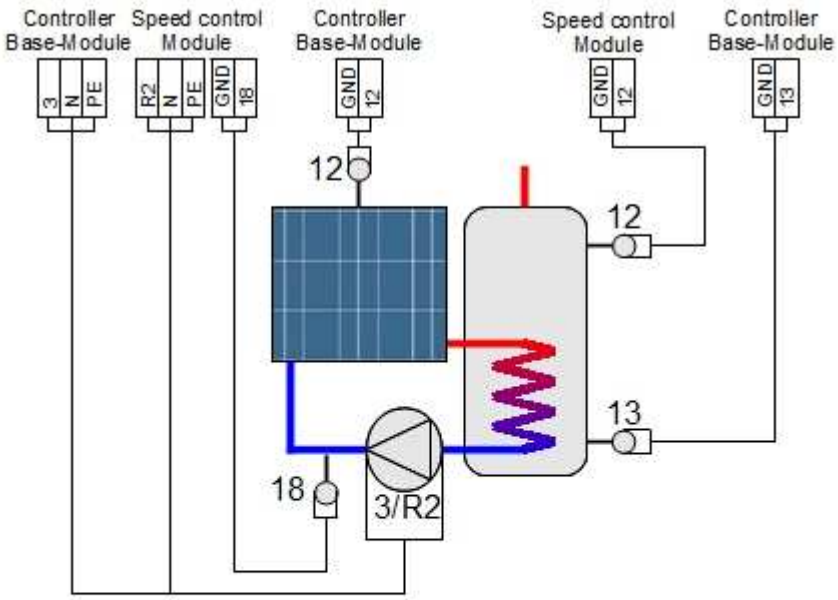


Load is done as soon as the collector sensor around the difference buffer amplifier collector is higher than the lower storage temperature.

Parameter	Definition	Default Setting		
18	Manual solar pump	101% = Auto		
19	Min. speed control pump	30%		
16	Max. collector temp.	150°C		
17	Diff. Buffer amplifier collector	15°C		

7.8 Differenzregler Solar - Pumpe drehzahlgeregelt

Schema-Number: x-x-x-6-x-x-6

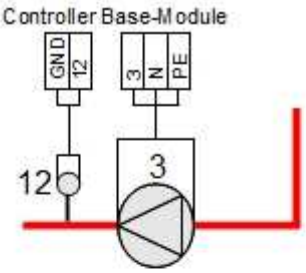


Load is done as soon as the collector sensor around the difference buffer amplifier collector is higher than the lower storage temperature. The speed control regulates the flow temperature and effectuates, and therefore, achieves a better effectiveness of the solar facility.

Parameter	Definition	Default Setting		
18	Manual solar pump	101% = Auto		
19	Min. speed control pump	30%		
16	Max. collector temp.	150°C		
17	Diff. Buffer amplifier collector	15°C		

7.9 WW circulation pump

Schema-Number: x-x-x-7-x-x-x

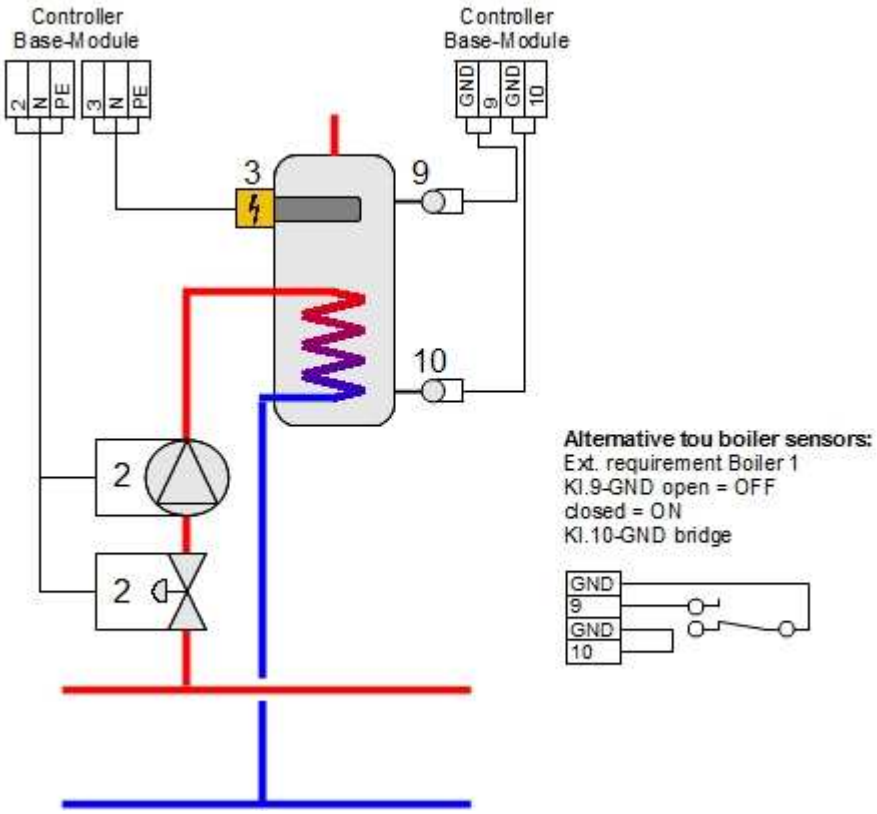


The circulation pump is responsible for the warm water flow. The warm water cools down by remaining in the pipes and only cold water flows at the beginning when turning on the water. The circulation pump prevents the water from cooling down through circulation.
Please note that configuration is only possible for one circulation pump.

Parameter	Definition	Default Setting		
235-236	Circulation time 1	12:00 - 12:00		
237-238	Circulation time 2	12:00 - 12:00		
239-240	Circulation time 3	12:00 - 12:00		
27	Turn on temp. WW circulation pump	30°C		

7.10 Release for external WW load

Schema-Number: x-x-x-8-x-x-x



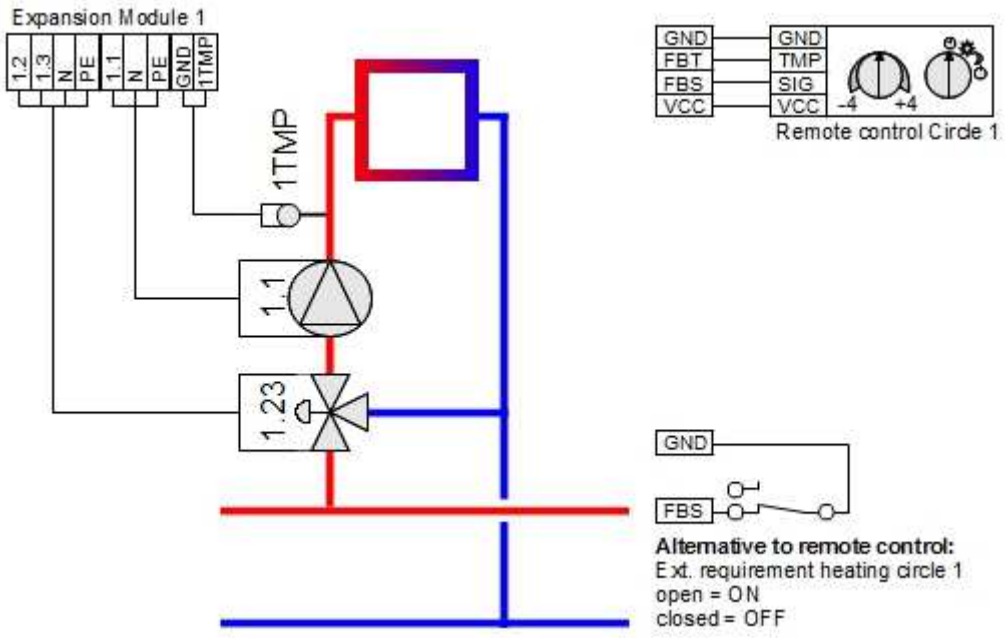
If the load temperature set is not reached after the timeout, the release for an external warm water load, e.g. through E fuse (electric heating) is given.

Parameter	Definition	Default Setting		
815	Timeout ext. boiler load	10min		

8 Expansion module 1

8.1 Heating circuit controlled

Schema-Number: x-x-x-x-1-x-x

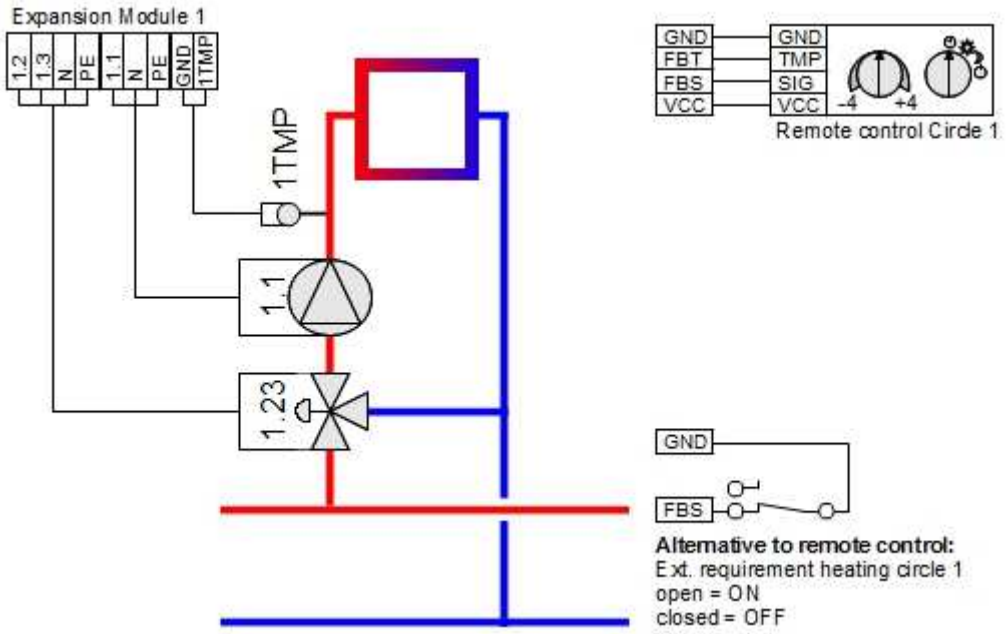


The heating circuit is controlled on an outside temperature dependency due to the configured outside temperature dependent flow temperatures.

Parameter	Definition	Default Setting		
242	Operation mode circuit 1	Selector switch valid		
115	Switch off temp. during day operation	18°C		
116	Switch off temp. at decreasing mode	10°C		
118	Flow temp. at +20°C outside temp.	20°C		
119	Flow temp. at +5°C outside temp.	35°C		
120	Flow temp. at -10°C outside temp.	50°C		
121	Max. flow temperature	90°C		
122	Min. flow temperature	0°C		
258	Decreasing mode correction	0.0°C		
307-348	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
123	Warm water subordinate	Ja		
124	Timer control	15s		
125	Factor control	3		
250	Special circuit?	NO		

8.2 Room control without optimization

Schema-Number: x-x-x-x-2-x-x

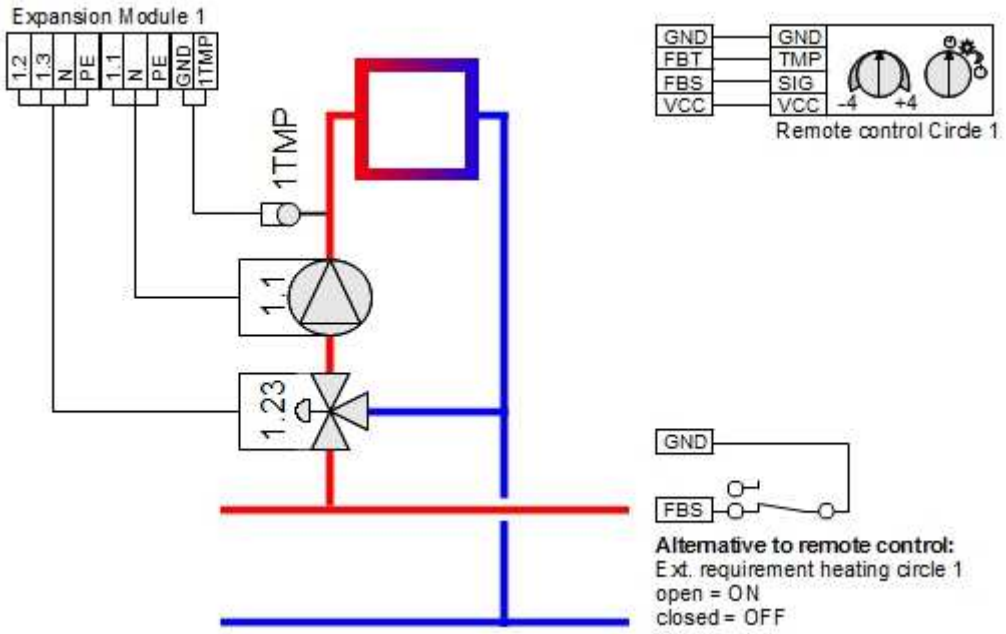


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve.

Parameter	Definition	Default Setting		
242	Operation mode circuit 1	Selector switch valid		
117	Room must temperature	20.0°C		
126	Room influence	50%		
127	Room temp. control factor	3		
128	Offset room temp.	0°C		
115	Switch off temp. during day operation	18°C		
116	Switch off temp. at decreasing mode	10°C		
118	Flow temp. at +20°C outside temp.	20°C		
119	Flow temp. at +5°C outside temp.	35°C		
120	Flow temp. at -10°C outside temp.	50°C		
121	Max. flow temperature	90°C		
122	Min. flow temperature	0°C		
258	Decreasing mode correction	0.0°C		
307-348	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
123	Warm water subordinate	Ja		
124	Timer control	15s		
125	Factor control	3		
250	Special circuit?	NO		

8.3 Room control with optimization

Schema-Number: x-x-x-x-3-x-x

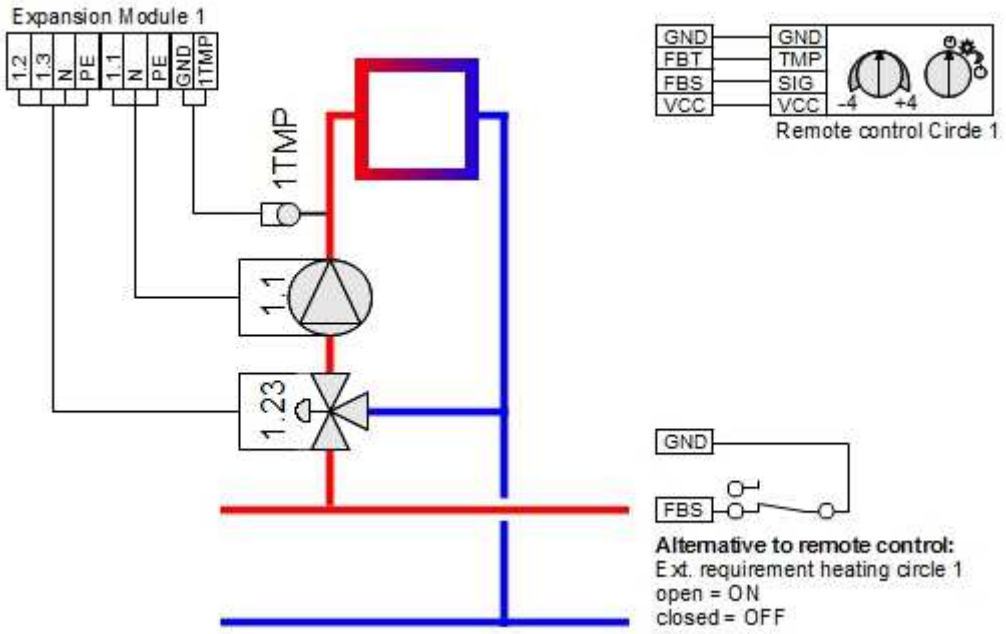


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve. Additionally, optimization of the decreasing and heating times is reached, in order to reach room temperature already at the beginning of the heating time.

Parameter	Definition	Default Setting		
242	Operation mode circuit 1	Selector switch valid		
117	Room must temperature	20.0°C		
126	Room influence	50%		
127	Room temp. control factor	3		
128	Offset room temp.	0°C		
115	Switch off temp. during day operation	18°C		
116	Switch off temp. at decreasing mode	10°C		
118	Flow temp. at +20°C outside temp.	20°C		
119	Flow temp. at +5°C outside temp.	35°C		
120	Flow temp. at -10°C outside temp.	50°C		
121	Max. flow temperature	90°C		
122	Min. flow temperature	0°C		
258	Decreasing mode correction	0.0°C		
307-348	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
123	Warm water subordinate	Ja		
124	Timer control	15s		
125	Factor control	3		
250	Special circuit?	NO		

8.4 Room thermostat

Schema-Number: x-x-x-x-4-x-x

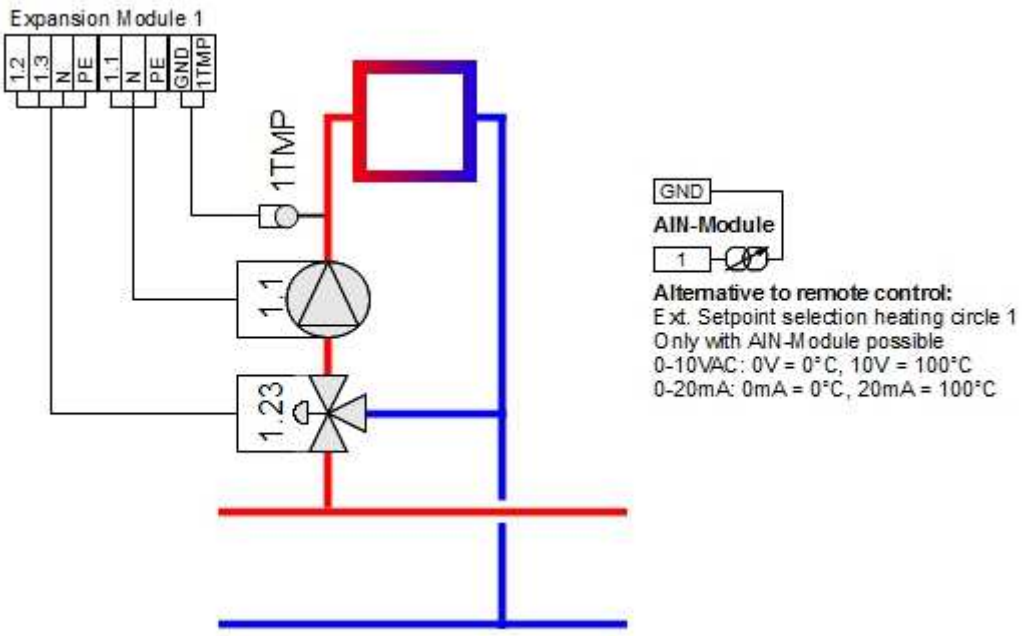


This setting is used if the function of a room thermostat shall be reached with a SCHNEID remote control. The external release function is applied for room thermostats presenting a close / open contact.

Parameter	Definition	Default Setting		
242	Operation mode circuit 1	Selector switch valid		
117	Room must temperature	20.0°C		
126	Room influence	50%		
127	Room temp. control factor	3		
128	Offset room temp.	0°C		
115	Switch off temp. during day operation	18°C		
116	Switch off temp. at decreasing mode	10°C		
118	Flow temp. at +20°C outside temp.	20°C		
119	Flow temp. at +5°C outside temp.	35°C		
120	Flow temp. at -10°C outside temp.	50°C		
121	Max. flow temperature	90°C		
122	Min. flow temperature	0°C		
258	Decreasing mode correction	0.0°C		
307-348	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
123	Warm water subordinate	Ja		
124	Timer control	15s		
125	Factor control	3		
250	Special circuit?	NO		

8.5 External set-point selection 0-10V / 0-20mA

Schema-Number: x-x-x-x-5-x-x



The flow must value for the heating circuit is determined externally through a 0-10V analogue signal. Connection is done on the AIN module.

Parameter	Definition	Default Setting		
242	Operation mode circuit 1	Selector switch valid		
115	Switch off temp. during day operation	18°C		
116	Switch off temp. at decreasing mode	10°C		
118	Flow temp. at +20°C outside temp.	20°C		
119	Flow temp. at +5°C outside temp.	35°C		
120	Flow temp. at -10°C outside temp.	50°C		
121	Max. flow temperature	90°C		
122	Min. flow temperature	0°C		
258	Decreasing mode correction	0.0°C		
307-348	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
123	Warm water subordinate	Ja		
124	Timer control	15s		
125	Factor control	3		
250	Special circuit?	NEIN		

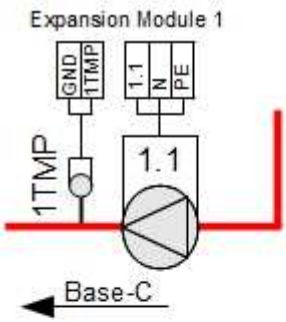
8.6 WW load module controlled for Basis C

Schema-Number: x-x-4-x-6-x-x

Scheme and parameter, see “WW load module 1 controlled” page 29.

8.7 Circulation pump for Basis C

Schema-Number: x-x-x-x-7-x-x

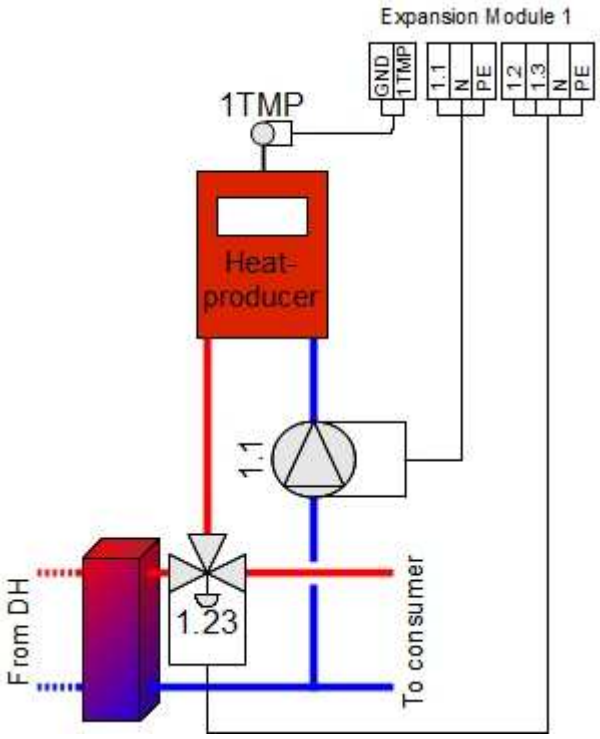


The circuit controls the circulation pump. The heating times set for the circuits apply as circulation times. The release temperature for the circulation pump is measured on the flow sensor of the respective heating circuit module and configuration is done with parameter “Turn on temperature circulation pump”.

Parameter	Definition	Default Setting		
307-348	Circulation times Monday-Sunday			
	Circulation time 1	06:00 - 22:00		
	Circulation time 2	12:00 – 12:00		
	Circulation time 3	12:00 – 12:00		
27	Turn on temp. WW circulation pump	30°C		

8.8 Switching valve for additional heat generators

Schema-Number: x-x-x-x-8-x-x

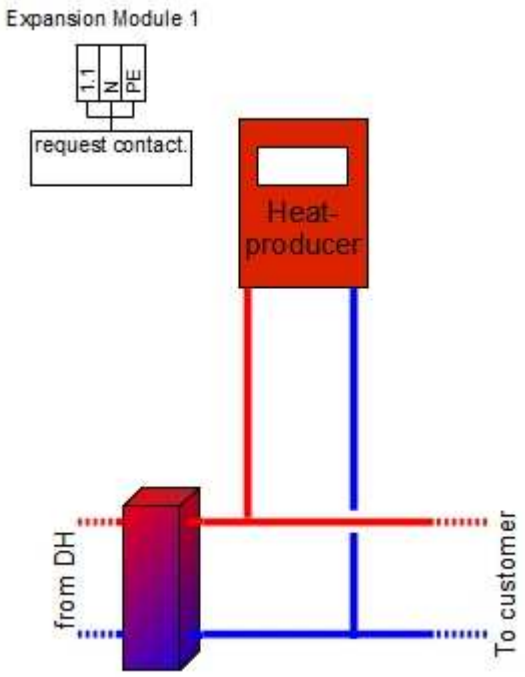


An existing heat generator has a temperature sensor. If the generator sensor value is higher than the must flow plus the connection hysteresis, the controller switches to the external heat generator. No further supply is made through longdistance heating at switching. Travel circuitry is done if the generator temperature is lower than the must flow of the shutoff hysteresis.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
38	Hyst. Travel circuitry	-5°C		

8.9 Requirement of addition heat generators

Schema-Number: x-x-x-x-9-x-x

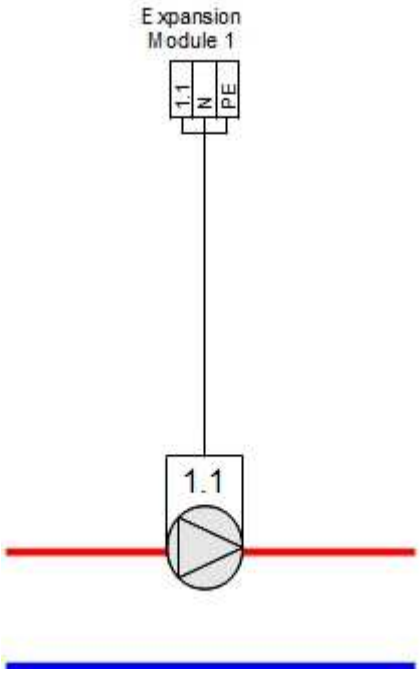


If the must flow for a certain time (“Timeout connection”) and the “Hysteresis connection” is exceeded, an existing heat generator (e.g. oil-fired boiler) is connected.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
39	Timeout connection	15 min		
40	Minimum operation time	30 min		

8.10 Intermediate circuit pump

Schema-Number: x-x-x-x-10-x-x



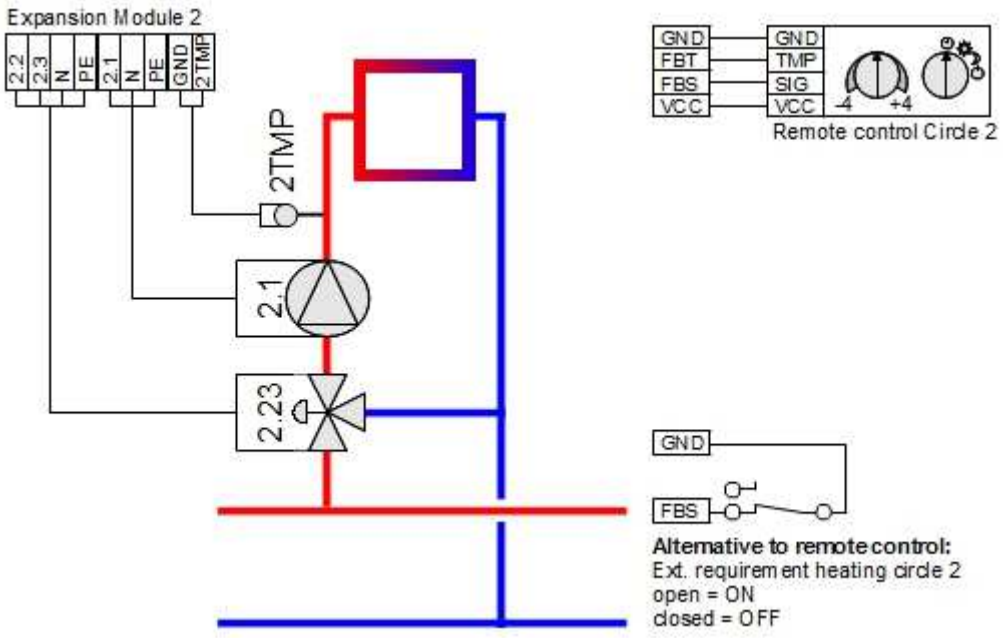
The intermediate circuit pump works like the supplying pump. It is only active if the secondary must flow is higher than 0.

Parameter	Definition	Default Setting		
50	Total set-point increase	0°C		

9 Eypansion Module 2

9.1 Heating circuit controlled

Schema-Number: x-x-x-x-x-1-x

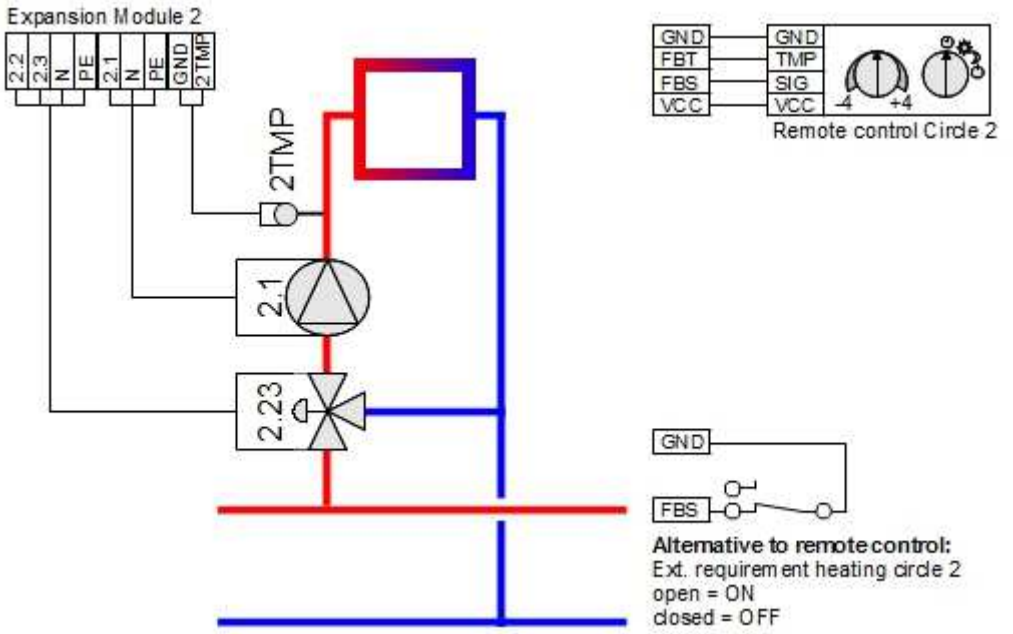


The heating circuit is controlled on an outside temperature dependency due to the configured outside temperature dependent flow temperatures.

Parameter	Definition	Default Setting		
243	Operation mode circuit 1	Selector switch valid		
129	Switch off temp. during day operation	18°C		
130	Switch off temp. at decreasing mode	10°C		
132	Flow temp. at +20°C outside temp.	20°C		
133	Flow temp. at +5°C outside temp.	35°C		
134	Flow temp. at -10°C outside temp.	50°C		
135	Max. flow temperature	90°C		
136	Min. flow temperature	0°C		
259	Decreasing mode correction	0.0°C		
349-390	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
137	Warm water subordinate	Ja		
138	Timer control	15s		
139	Factor control	3		
251	Special circuit?	NO		

9.2 Room control without optimization

Schema-Number: x-x-x-x-x-2-x

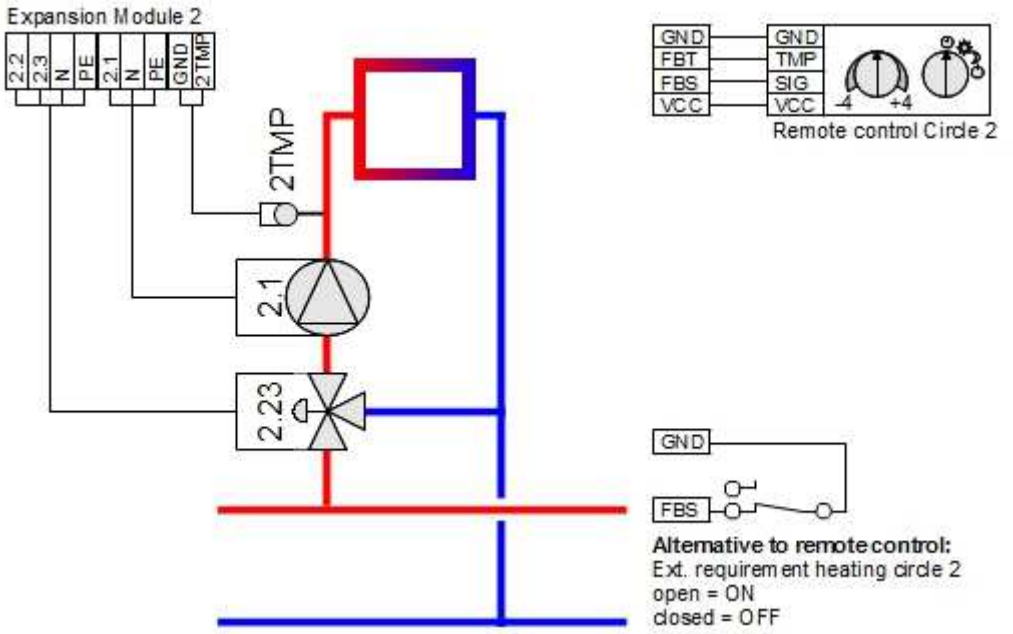


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve.

Parameter	Definition	Default Setting		
243	Operation mode circuit 1	Selector switch valid		
131	Room must temperature	20.0°C		
140	Room influence	50%		
141	Room temp. control factor	3		
142	Offset room temp.	0°C		
129	Switch off temp. during day operation	18°C		
130	Switch off temp. at decreasing mode	10°C		
132	Flow temp. at +20°C outside temp.	20°C		
133	Flow temp. at +5°C outside temp.	35°C		
134	Flow temp. at -10°C outside temp.	50°C		
135	Max. flow temperature	90°C		
136	Min. flow temperature	0°C		
259	Decreasing mode correction	0.0°C		
349-390	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
137	Warm water subordinate	Ja		
138	Timer control	15s		
139	Factor control	3		
251	Special circuit?	NO		

9.3 Room control with optimization

Schema-Number: x-x-x-x-x-3-x

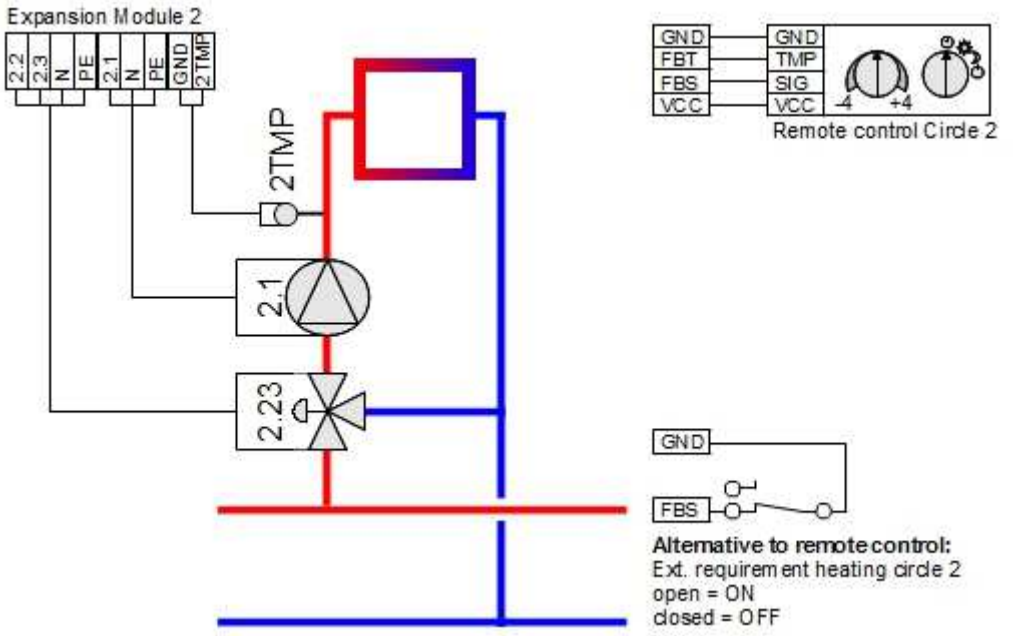


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve. Additionally, optimization of the decreasing and heating times is reached, in order to reach room temperature already at the beginning of the heating time.

Parameter	Definition	Default Setting		
243	Operation mode circuit 1	Selector switch valid		
131	Room must temperature	20.0°C		
140	Room influence	50%		
141	Room temp. control factor	3		
142	Offset room temp.	0°C		
129	Switch off temp. during day operation	18°C		
130	Switch off temp. at decreasing mode	10°C		
132	Flow temp. at +20°C outside temp.	20°C		
133	Flow temp. at +5°C outside temp.	35°C		
134	Flow temp. at -10°C outside temp.	50°C		
135	Max. flow temperature	90°C		
136	Min. flow temperature	0°C		
259	Decreasing mode correction	0.0°C		
349-390	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
137	Warm water subordinate	Ja		
138	Timer control	15s		
139	Factor control	3		
251	Special circuit?	NO		

9.4 Room thermostat

Schema-Number: x-x-x-x-x-4-x

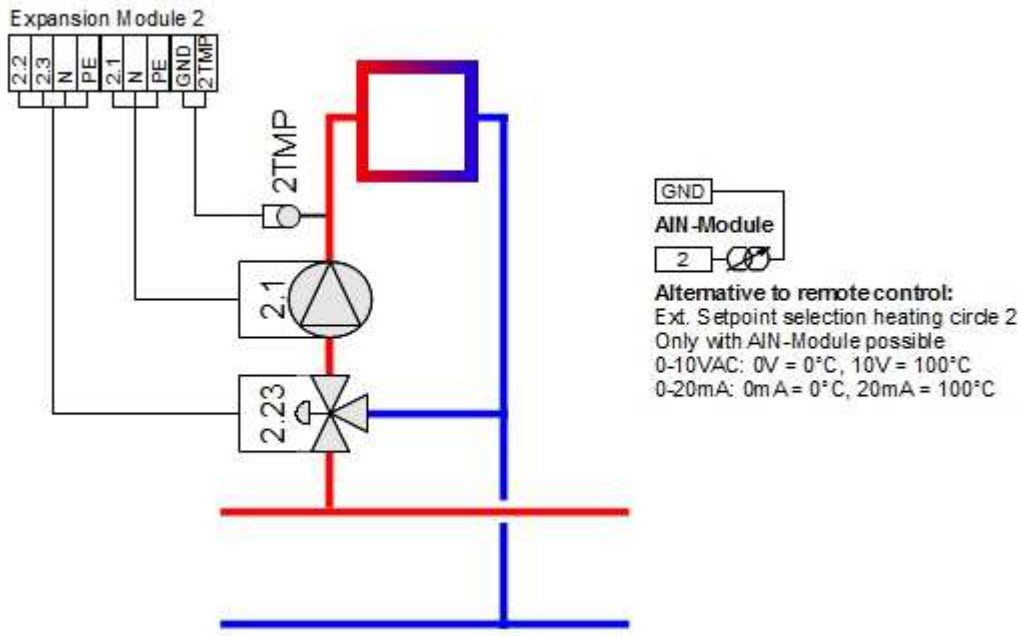


This setting is used if the function of a room thermostat shall be reached with a SCHNEID remote control. The external release function is applied for room thermostats presenting a close / open contact.

Parameter	Definition	Default Setting		
243	Operation mode circuit 1	Selector switch valid		
131	Room must temperature	20.0°C		
140	Room influence	50%		
141	Room temp. control factor	3		
142	Offset room temp.	0°C		
129	Switch off temp. during day operation	18°C		
130	Switch off temp. at decreasing mode	10°C		
132	Flow temp. at +20°C outside temp.	20°C		
133	Flow temp. at +5°C outside temp.	35°C		
134	Flow temp. at -10°C outside temp.	50°C		
135	Max. flow temperature	90°C		
136	Min. flow temperature	0°C		
259	Decreasing mode correction	0.0°C		
349-390	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
137	Warm water subordinate	Ja		
138	Timer control	15s		
139	Factor control	3		
251	Special circuit?	NO		

9.5 External set-point selection 0-10V / 0-20mA

Schema-Number: x-x-x-x-x-5-x



The flow must value for the heating circuit is determined externally through a 0-10V analogue signal. Connection is done on the AIN module.

Parameter	Definition	Default Setting		
243	Operation mode circuit 1	Selector switch valid		
129	Switch off temp. during day operation	18°C		
130	Switch off temp. at decreasing mode	10°C		
132	Flow temp. at +20°C outside temp.	20°C		
133	Flow temp. at +5°C outside temp.	35°C		
134	Flow temp. at -10°C outside temp.	50°C		
135	Max. flow temperature	90°C		
136	Min. flow temperature	0°C		
259	Decreasing mode correction	0.0°C		
349-390	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
137	Warm water subordinate	Ja		
138	Timer control	15s		
139	Factor control	3		
251	Special circuit?	NO		

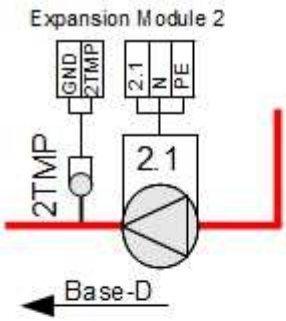
9.6 WW load module controlled for Base D

Schema-Number: x-x-x-4-x-6-x

Scheme and parameter, see “WW load module 2 controlled” page 39.

9.7 Circulation pump for Basis D

Schema-Number: x-x-x-x-x-7-x

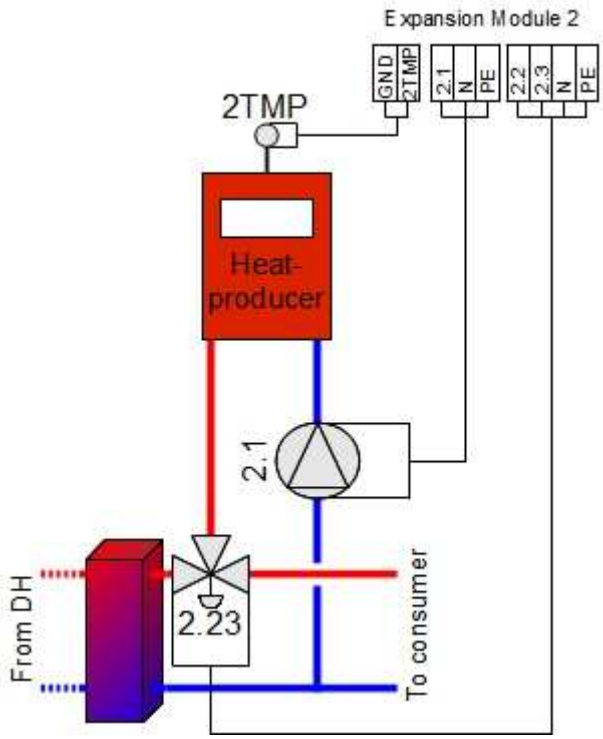


The circuit controls the circulation pump. The heating times set for the circuits apply as circulation times. The release temperature for the circulation pump is measured on the flow sensor of the respective heating circuit module and configuration is done with parameter “Turn on temperature circulation pump”.

Parameter	Definition	Default Setting		
349-390	Circulation times Monday-Sunday			
	Circulation time 1	06:00 - 22:00		
	Circulation time 2	12:00 – 12:00		
	Circulation time 3	12:00 – 12:00		
27	Turn on temp. WW circulation pump	30°C		

9.8 Switching valve for additional heat generators

Schema-Number: x-x-x-x-x-8-x

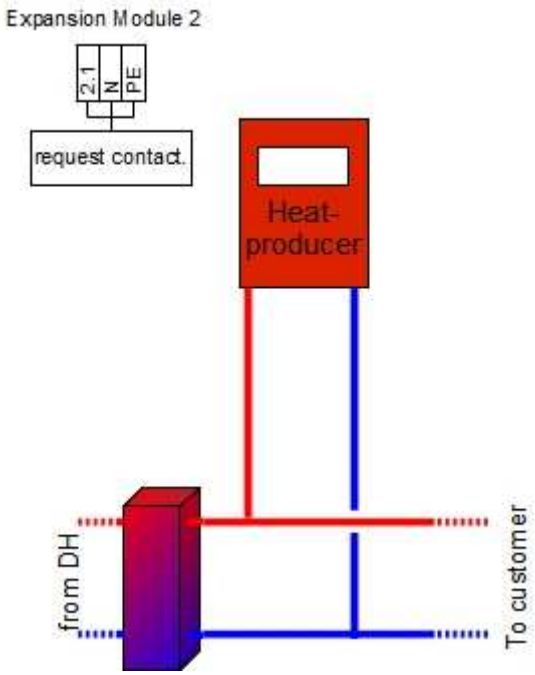


An existing heat generator has a temperature sensor. If the generator sensor value is higher than the must flow plus the connection hysteresis, the controller switches to the external heat generator. No further supply is made through longdistance heating at switching. Travel circuitry is done if the generator temperature is lower than the must flow of the shutoff hysteresis.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
38	Hyst. Travel circuitry	-5°C		

9.9 Requirement of addition heat generators

Schema-Number: x-x-x-x-x-9-x

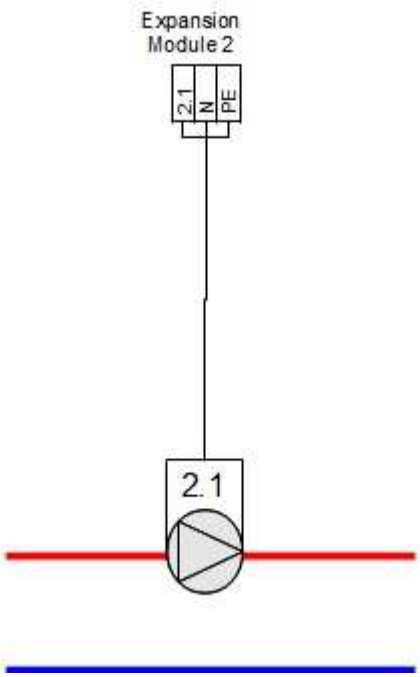


If the must flow for a certain time (“Timeout connection”) and the “Hysteresis connection” is exceeded, an existing heat generator (e.g. oil-fired boiler) is connected.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
39	Timeout connection	15 min		
40	Minimum operation time	30 min		

9.10 Intermediate circuit pump

Schema-Number: x-x-x-x-x-10-x



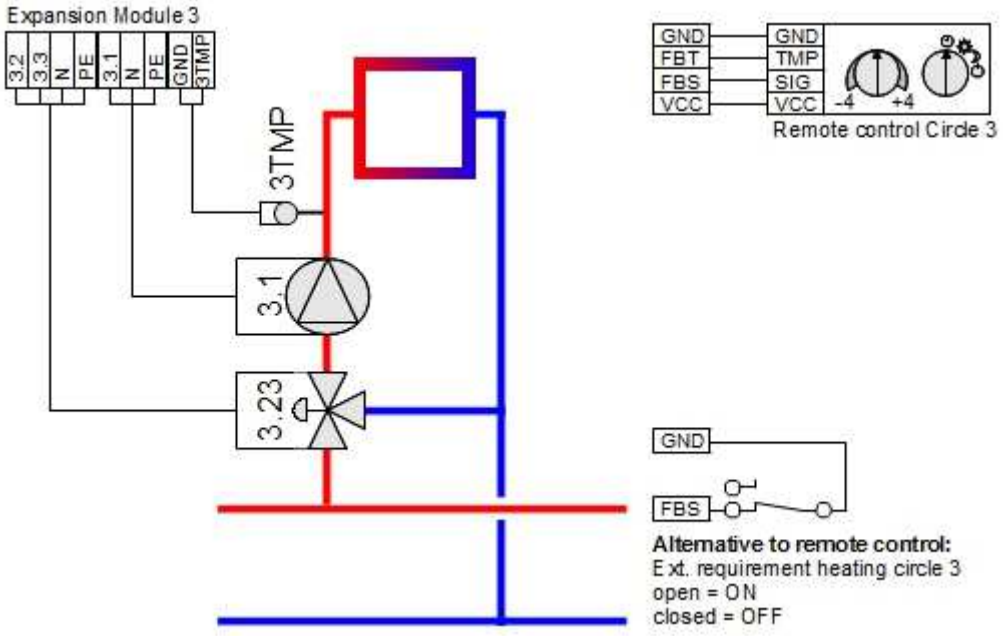
The intermediate circuit pump works like the supplying pump. It is only active if the secondary must flow is higher than 0.

Parameter	Definition	Default Setting		
50	Total setpoint increase	0°C		

10 Expansion Moduel 3

10.1 Heating circuit controlled

Schema-Number: x-x-x-x-x-x-1

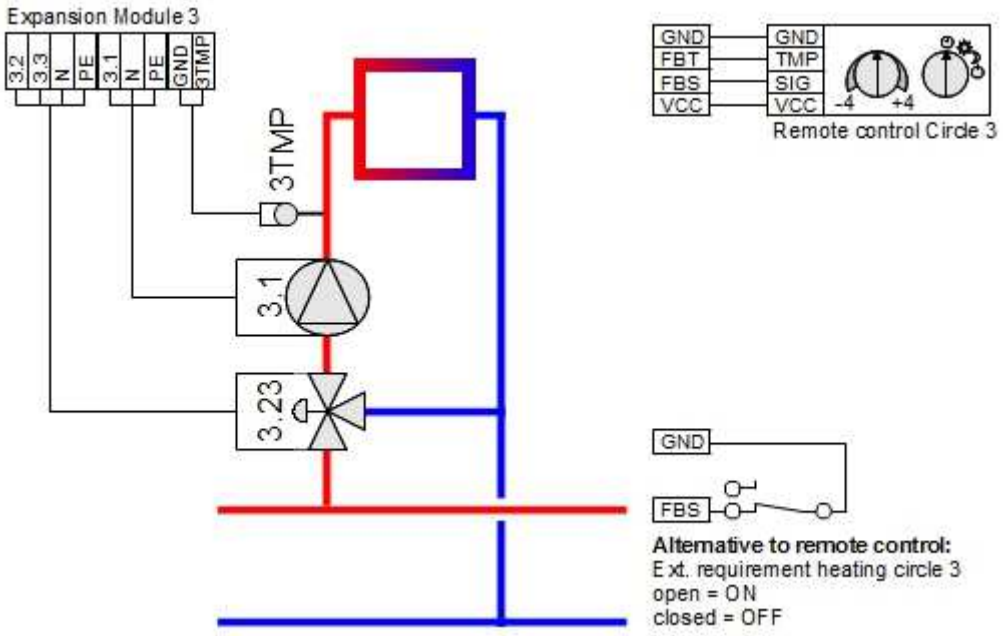


The heating circuit is controlled on an outside temperature dependency due to the configured outside temperature dependent flow temperatures.

Parameter	Definition	Default Setting		
244	Operation mode circuit 1	Selector switch valid		
143	Switch off temp. during day operation	18°C		
144	Switch off temp. at decreasing mode	10°C		
146	Flow temp. at +20°C outside temp.	20°C		
147	Flow temp. at +5°C outside temp.	35°C		
148	Flow temp. at -10°C outside temp.	50°C		
149	Max. flow temperature	90°C		
150	Min. flow temperature	0°C		
260	Decreasing mode correction	0.0°C		
391-432	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
151	Warm water subordinate	Ja		
152	Timer control	15s		
153	Factor control	3		
252	Special circuit?	NO		

10.2 Room control without optimization

Schema-Number: x-x-x-x-x-x-2

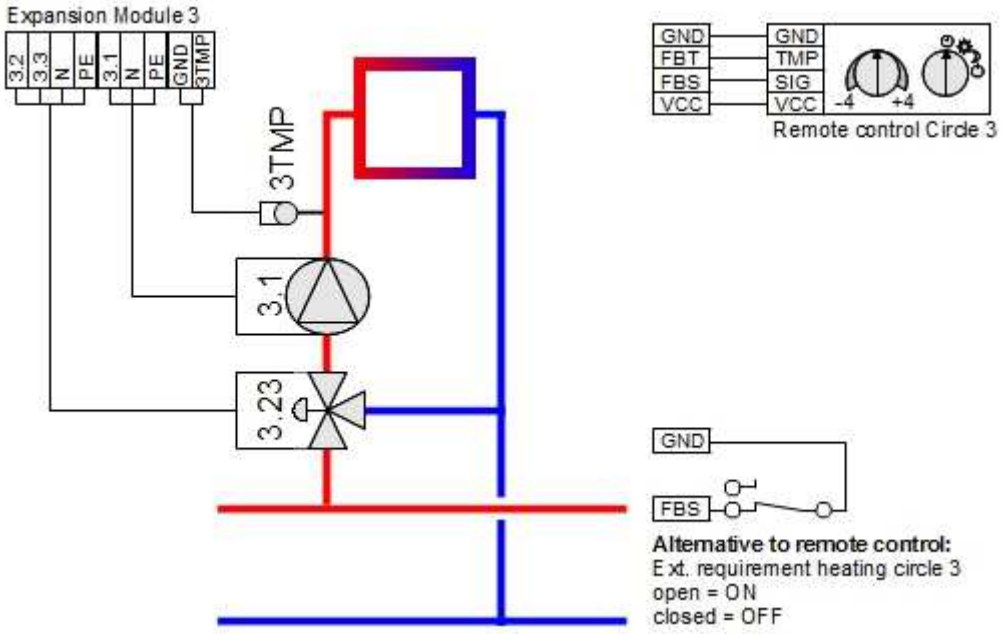


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve.

Parameter	Definition	Default Setting		
244	Operation mode circuit 1	Selector switch valid		
145	Room must temperature	20.0°C		
154	Room influence	50%		
155	Room temp. control factor	3		
156	Offset room temp.	0°C		
143	Switch off temp. during day operation	18°C		
144	Switch off temp. at decreasing mode	10°C		
146	Flow temp. at +20°C outside temp.	20°C		
147	Flow temp. at +5°C outside temp.	35°C		
148	Flow temp. at -10°C outside temp.	50°C		
149	Max. flow temperature	90°C		
150	Min. flow temperature	0°C		
260	Decreasing mode correction	0.0°C		
391-432	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
151	Warm water subordinate	Ja		
152	Timer control	15s		
153	Factor control	3		
252	Special circuit?	NO		

10.3 Room control with optimization

Schema-Number: x-x-x-x-x-x-3

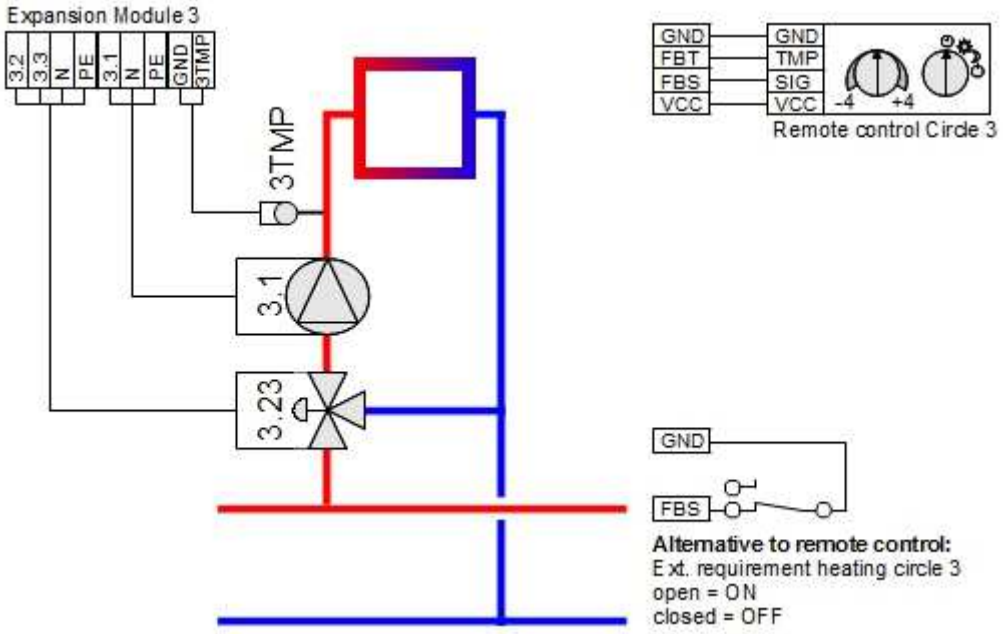


The heating circuit is controlled in dependency of the room temperature influencing the actual heating curve. Additionally, optimization of the decreasing and heating times is reached, in order to reach room temperature already at the beginning of the heating time.

Parameter	Definition	Default Setting		
244	Operation mode circuit 1	Selector switch valid		
145	Room must temperature	20.0°C		
154	Room influence	50%		
155	Room temp. control factor	3		
156	Offset room temp.	0°C		
143	Switch off temp. during day operation	18°C		
144	Switch off temp. at decreasing mode	10°C		
146	Flow temp. at +20°C outside temp.	20°C		
147	Flow temp. at +5°C outside temp.	35°C		
148	Flow temp. at -10°C outside temp.	50°C		
149	Max. flow temperature	90°C		
150	Min. flow temperature	0°C		
260	Decreasing mode correction	0.0°C		
391-432	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
151	Warm water subordinate	Ja		
152	Timer control	15s		
153	Factor control	3		
252	Special circuit?	NO		

10.4 Room thermostat

Schema-Number: x-x-x-x-x-x-4

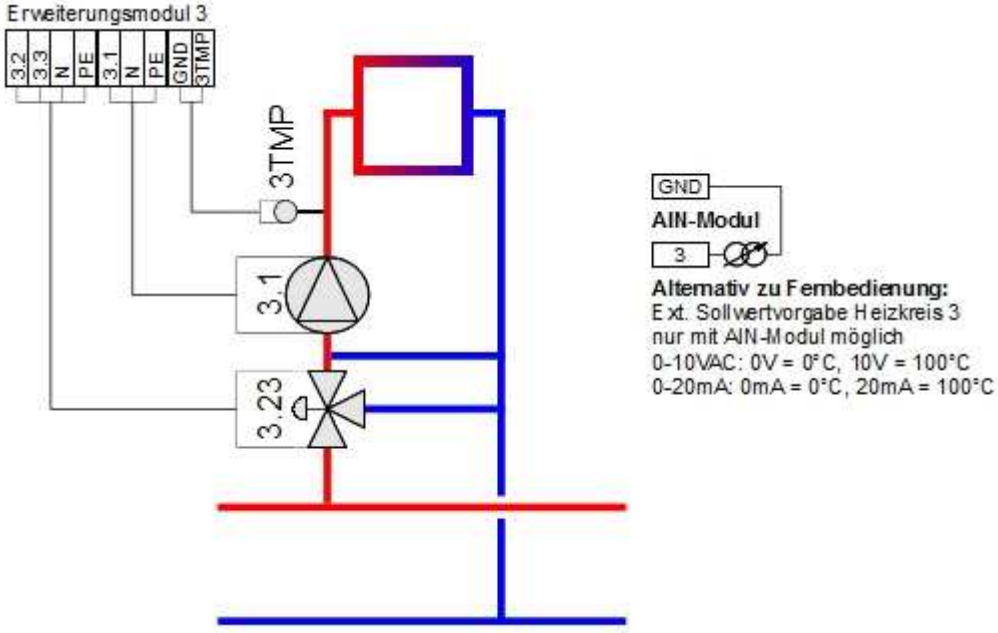


This setting is used if the function of a room thermostat shall be reached with a SCHNEID remote control. The external release function is applied for room thermostats presenting a close / open contact.

Parameter	Definition	Default Setting		
244	Operation mode circuit 1	Selector switch valid		
145	Room must temperature	20.0°C		
154	Room influence	50%		
155	Room temp. control factor	3		
156	Offset room temp.	0°C		
143	Switch off temp. during day operation	18°C		
144	Switch off temp. at decreasing mode	10°C		
146	Flow temp. at +20°C outside temp.	20°C		
147	Flow temp. at +5°C outside temp.	35°C		
148	Flow temp. at -10°C outside temp.	50°C		
149	Max. flow temperature	90°C		
150	Min. flow temperature	0°C		
260	Decreasing mode correction	0.0°C		
391-432	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
151	Warm water subordinate	Ja		
152	Timer control	15s		
153	Factor control	3		
252	Special circuit?	NO		

10.5 External set-point selection 0-10V / 0-20mA

Schema-Number: x-x-x-x-x-x-5



The flow must value for the heating circuit is determined externally through a 0-10V analogue signal. Connection is done on the AIN module.

Parameter	Definition	Default Setting		
244	Operation mode circuit 1	Selector switch valid		
143	Switch off temp. during day operation	18°C		
144	Switch off temp. at decreasing mode	10°C		
146	Flow temp. at +20°C outside temp.	20°C		
147	Flow temp. at +5°C outside temp.	35°C		
148	Flow temp. at -10°C outside temp.	50°C		
149	Max. flow temperature	90°C		
150	Min. flow temperature	0°C		
260	Decreasing mode correction	0.0°C		
391-432	Heating times Monday-Sunday			
	Heating time 1	06:00 - 22:00		
	Heating time 2	12:00 – 12:00		
	Heating time 3	12:00 – 12:00		
151	Warm water subordinate	Ja		
152	Timer control	15s		
153	Factor control	3		
252	Special circuit?	NO		

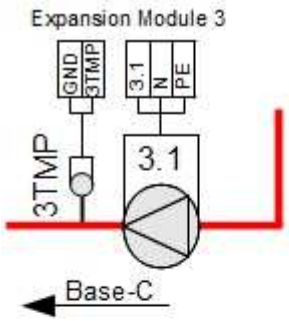
10.6 Speed control module

Schema-Number: x-x-x-x-x-6

Configuration can be done if the speed control module exists and speed control shall be performed.

10.7 Circulation pump for Basis C

Schema-Number: x-x-x-x-x-7

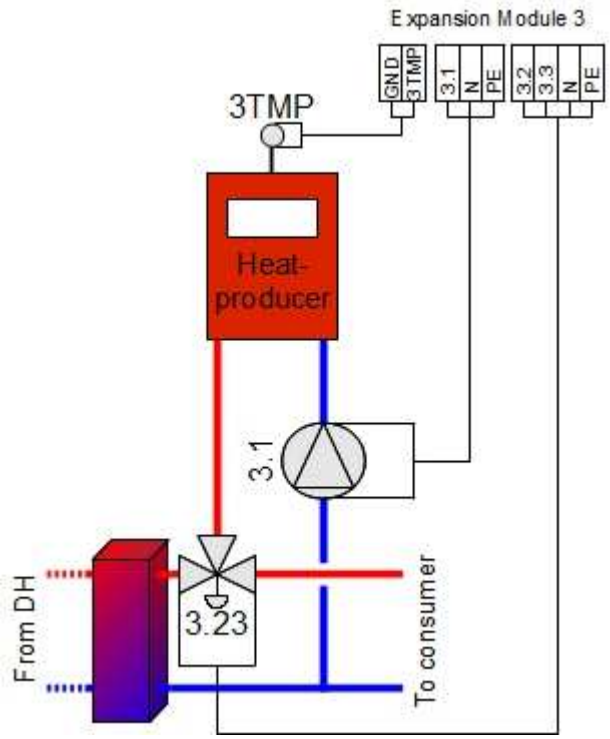


The circuit controls the circulation pump. The heating times set for the circuits apply as circulation times. The release temperature for the circulation pump is measured on the flow sensor of the respective heating circuit module and configuration is done with parameter “Turn on temperature circulation pump”.

Parameter	Definition	Default Setting		
391-432	Circulation times Monday-Sunday			
	Circulation time 1	06:00 - 22:00		
	Circulation time 2	12:00 – 12:00		
	Circulation time 3	12:00 – 12:00		
27	Turn on temp. WW circulation pump	30°C		

10.8 Switching valve for additional heat generators

Schema-Number: x-x-x-x-x-x-8

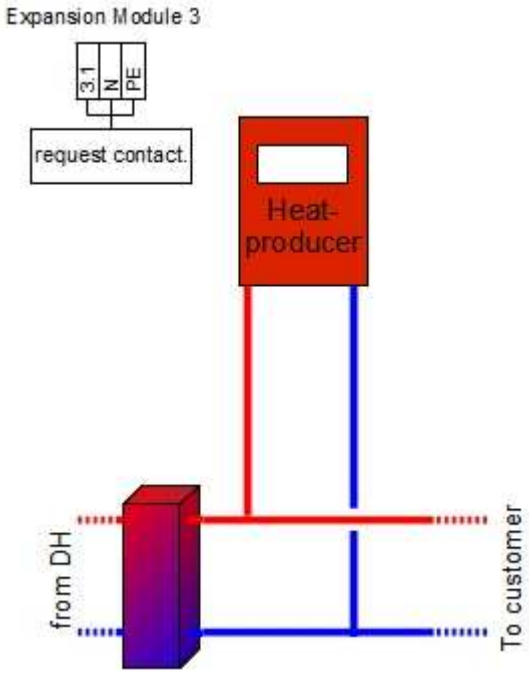


An existing heat generator has a temperature sensor. If the generator sensor value is higher than the must flow plus the connection hysteresis, the controller switches to the external heat generator. No further supply is made through longdistance heating at switching. Travel circuitry is done if the generator temperature is lower than the must flow of the shutoff hysteresis.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
38	Hyst. Travel circuitry	-5°C		

10.9 Requirement of addition heat generators

Schema-Number: x-x-x-x-x-x-9

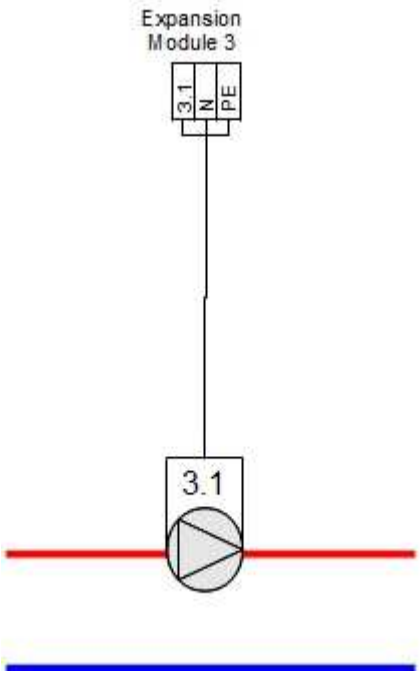


If the must flow for a certain time (“Timeout connection”) and the “Hysteresis connection” is exceeded, an existing heat generator (e.g. oil-fired boiler) is connected.

Parameter	Definition	Default Setting		
37	Hyst. Connection	5°C		
39	Timeout connection	15 min		
40	Minimum operation time	30 min		

10.10 Intermediate circuit pump

Schema-Number: x-x-x-x-x-x-10



The intermediate circuit pump works like the supplying pump. It is only active if the secondary must flow is higher than 0.

Parameter	Definition	Default Setting		
50	Total must value increase	0°C		

11 BASIC SETTINGS

11.1 Release and input to parameter level

- Keep both arrow keys pressed until “Service level“ appears on the display.
- To increase the service level, select menu item “Service code” and confirm with “ENTER”.
- Enter the service code and re-confirm with “ENTER”
- The parameter level is now released
- Select menu item “Basic setting” to enter the basic settings

11.2 Boiler primary side – Parameter 12

This configuration enables a primary side control of the boiler with remote heat valve. The respective hydraulic boiler configuration remains. The secondary must value is no longer influenced by a boiler load through this configuration.
In this scheme illustration, the boiler is loaded through a load module controlled by pump 1. The boiler can, though, also be loaded through a controlled load module.

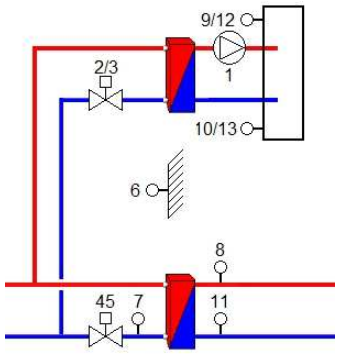


Illustration 5: Scheme illustration-boiler primary side

11.3 Offset outside temperature – Parameter 13

The value configuration can be positive or negative and is added to the actual outside temperature. An offset might be necessary e.g. if the sensor value is tampered through high pipe impedances (long wiring) or has been badly positioned.

11.4 Shut-off pumps – Parameter 22

Concerns heating circuits with operation mode “On/Off optimization”. The heating circuit pumps can be shut-off at active “Shut-off pumps” during an Off optimization if the heat circuit is set to an early decrease.

11.5 On/Off increase – Parameter 23

Concerns heating circuits with operation mode “On/Off optimization”. The flow must value of the heat curve can be increased by the percentage set in this mode during an On optimization while the heat circuit is set to the early day operation.

11.6 Full night decrease – Parameter 24

Enables the configuration of a gliding night decrease, depending on the outside temperature. The value set in this mode corresponds to the outside temperature as of which the flow must value shall be decreased to the “Decreasing temperature” (concerns warm outside temperature). The lower limit presents the parameter “No night decrease” (page 73).

11.7 No night decrease – Parameter 25

Enables the configuration of a gliding night decrease, depending on the outside temperature. The value set in this mode corresponds to the outside temperature, which shall not be underrun by the flow must value (concerns cold outside temperature). The upper limit presents the parameter “Full night decrease”.

11.8 Hysteresis thermostat control – Parameter 26

This value is set by the hysteresis by which the turn on and turn off respectively of a thermostat control is delayed. The release of the circuit is done as soon as the room temperature is lower than the must value minus the hysteresis. The turn-off of the circuit is done as soon as the room temperature is higher than the must value plus the hysteresis.

11.9 Notification outside temperature for control – Parameter 28

This parameter enables a notification of the outside temperature used as control.

Values from 0-60 can be set to define the period of time to be averaged. The value set corresponds to the duration of the notification in minutes, multiplied by factor 15.

0:	no notification of the outside temperature	
1:	Notification outside temperature exceeding 15min	(1x15min)
2:	Notification outside temperature exceeding 30minn	(2x15min)
4:	Notification outside temperature exceeding 60min	(4x15min)
20:	Notification outside temperature exceeding 5h	(20x15min)
60:	Notification outside temperature exceeding 15h	(60x15min)

11.10 Notification of the outside temperature for shut-off – Parameter 34

This parameter enables notification of the outside temperature used for shut-off.
Values from 0-60 can be set to define the period of time to be averaged. The value set corresponds with the time of the notification in hours.

0:	no notification of the outside temperature
1:	Notification outside temperature exceeding 1h
2:	Notification outside temperature exceeding 2h
4:	Notification outside temperature exceeding 4h
20:	Notification outside temperature exceeding 20h
60:	Notification outside temperature exceeding 60h

11.11 Flow temperature at frost – Parameter 29

The secondary flow temperature, which is being controlled if the outside frost protection temperatures are underrun.

11.12 Frost protection at outside temperature – Parameter 30

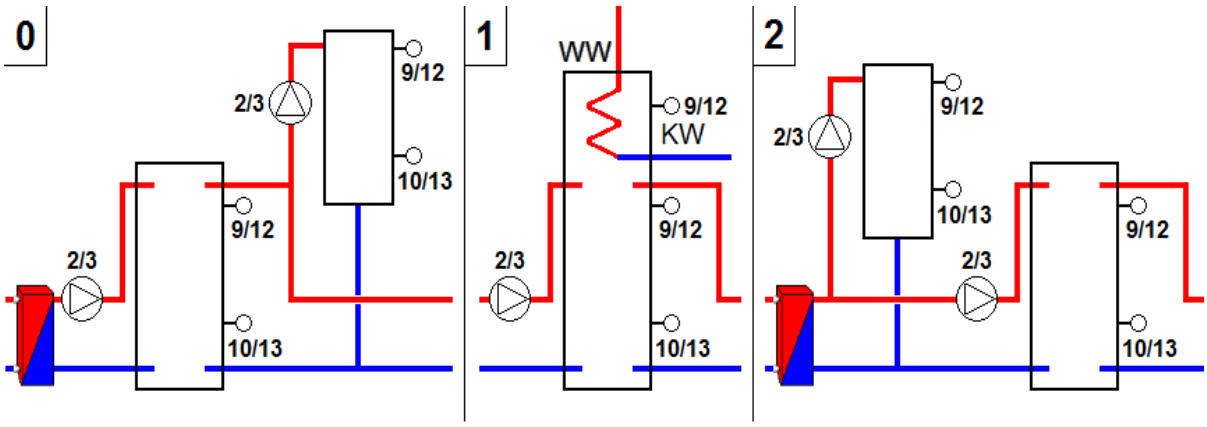
This is where you can set the outside temperature at which the frost protection is activated.

11.13 Buffer amplifier operation mode – Parameter 59

0 -- Standard
The buffer amplifier provides the heat for a following boiler and heater.

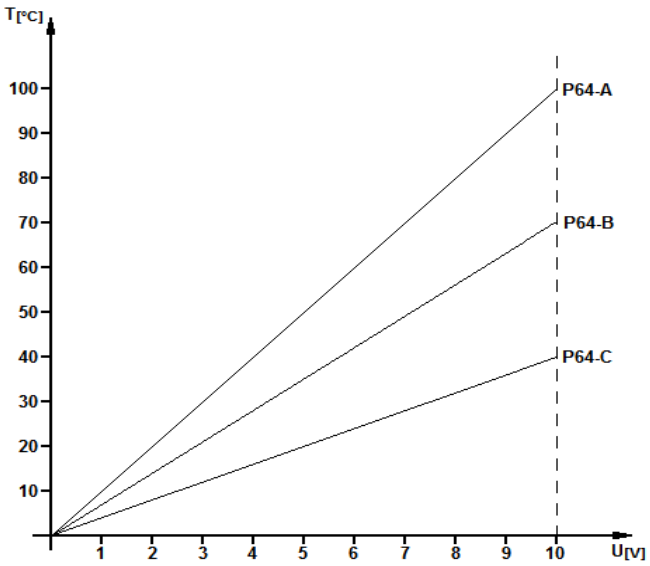
1 – Combination storage tank with 3 sensors
Load of the warm water part is done with the help of an own sensor and with the same parameters as the load of a separate boiler, but with the buffer amplifier load pump. The output of the boiler pump can, in this case, be used for a switching valve. The lower part of the buffer amplifier provided the heat for the heater.

2 – Boiler and buffer amplifier parallel
The storage tanks for the industrial water and heating are separated and are supplied directly by their own respective long-distance heating pumps. The boiler load is done prior-ranking.



11.14 Final value at 0-10V – Parameter 64

If configuration has been done for a heat circuit of the external must value requirement, that value determines the maximum value in °C of the requirement, i.e. at 10V. The minimum value for 0V is 0°C. The temperature requirement through the signal is, therefore, determined by that value. The maximum and minimum temperatures remain valid for the circuit. An input of 100°C would mean a requirement of 50°C at 5V, an input of 70°C would mean a requirement of 35°C at 5V:



T [°C]	Flow temperature in degrees Celsius
U [V]	Voltage requirement in Volt
P64-A	Parameter 64: Setting 100°C
P64-B	Parameter 64: Setting 70°C
-P64-C	Parameter 64: Setting 40°C

11.15 Periods of time heater – Parameter 67

Selection possibilities exist for heating times, decreasing times, heating and block times and decreasing and block times. Standard setting is “Heating times”. If setting “Decreasing times” is selected, “Decreasing times” are provided instead of “Heating times” and configuration can be done. Period of time 3 of the circuit is used as block time.

12 Technical Data

SCHNEID MR-08 is an electronic control device for installation.

Brand:	**SCHNEID**
Type:	MR-08
Operation voltage:	230V~
Power input:	9VA
Max. nominal power „A1“:	2A
Max. nominal power „A2“:	2A
Max. total nominal power: (Sum of all outputs)	3,15A
Max. nominal power per output:	1A
Life cycle relay output:	500.000 switching processes
Type of connection:	Spring clamp terminal, operation without special tools Strip length from 5mm to 6mm
Connection technology:	CAGE CLAMP®, wire end sleeves not required
Wire cross section:	min. 0,5mm² max. 2,5mm²
Protection level casing:	IP20
Type of installation:	Module construction in DIN-Rail casing
Environment temperature:	0°C - 40°C
Operation period:	Continuous operation 100%
Contamination level:	2
Rated impulse voltage:	1500V
Sensor type temperature sensor:	PT 1000

12.1 General control specifications

- Power limited long-distance heat transmission stations
- Outside temperature dependent heat transmission stations
- Heat required controlled heat transmission stations
- Outside temperature dependent return flow limitation
- Connection possibility for 3 heat circuit modules
- Control of a direct heat circuit and 3 direct and mixer heat circuits
- Outside temperature dependent heat curve control
- Outside temperature dependent pump shut-off
- Room temperature dependent pump shut-off
- Three daily heating times per heat circuit
- Heating time intervention as decreasing times
- Block times
- Outside temperature determination for temperature control up to nine hours
- Outside temperature determination for pump shut-off up to 60 hours
- Optimization of the On/Off times through room sensor
- Control through room sensor
- Control through adjustable room influence
- Room control through thermostat function
- Remote control for each heat circuit
- Up to four external 0-10V must value requirements with extension module
- Different versions of control of boiler circuits
- Secondary boiler and residual power use, respectively, are individually adjustable for each circuit
- Different boiler hydraulic variations such as load modules/with mixers/primary, etc.
- Different boiler load criteria such as period of times/minimum temperature/must value load, etc.
- Different boiler shut-off criteria such as upper must values/lower must values/load times, etc.
- Boiler load blockages after reaching/not reaching of must values

12.2 Assign hot keys

12.3 Types of operation

12.3.1 Off / frost protection

The control operation is de-activated except for the frost protection switch. The frost protection is activated if the outside temperature falls below the frost protection temperature.

12.3.2 Decreasing operation

The heat circuits are continuously in the decreasing operation independently of the time program, i.e. the must temperature is respectively reduced in settings. The remote control of a heat circuit, though, is prioritized.

12.3.3 Heating operation

The heat circuits are continuously in heating operation independently of the time program. The remote control of a heat circuit, though, is prioritized.

12.3.4 Automatic operation

The operation type of the heat circuits (heating or decreasing operation) depends on the time program and the remote control.

12.3.5 Boiler operation

The heat circuits are out of order, except for the frost protection. Only boiler load is performed. (Summer operation)

12.3.6 Party mode

The heat circuits are put in heating operation for a certain time (adjustable). The control is set back to the last selected type of operation after expiry of time.

12.3.7 MAINTENANCE

Shut-off of all outputs, no control is performed.

ACHTUNG:

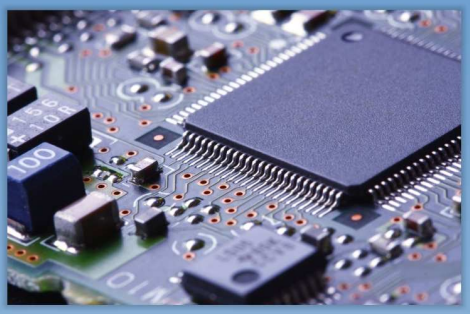
- no frost protection
- The maintenance function does not serve as performance of electro technical work and/or work on actors (pumps, valves)!(Risk of injury!)

Subject Index

AIN-Module....15
Assign hot keys....79
Base-A....
District Heating....17
Temperatur Control for Base-B - Variant 1....18
Temperature Control for Base-B - Variant 2....19
Base-B....
External set-point selection 0-10V / 0-20mA....24
Heating Circuit pre-controlled....20
Intermediate circuit long-distance heating without pump....25
Intermediate long-distance heating with pump....26
Return flow increase with valve 45....26
Room Control with optimisation....22
Room control without optimization....21
Room Thermostat....23
Base-C....
Buffer storage tank....31
Buffer storage tank – pump speed controlled....32
Difference controller Solar....33
Difference controller solar pump speed controlled....34
Release for external WW load....36
Switching valve WW load through pump 1....28
WW circulation pump....35
WW load module controlled on extension module 1....30
WW load module pre-controlled through pump 1....29
WW register storage with pump or globe valve....27
Base-D....
Difference controller Solar....43
Differenzregler Solar - Pumpe drehzahlgeregelt....44
Heating storage tank....41
Heating storage tank – pump speed controlled....42
Release for external WW load....46
Switching valve WW load through pump 1....38
WW circulation pump....45
WW load module controlled on extension module 2....40
WW load module pre-controlled through pump 1....39
WW register storage with pump or globe valve....37
BASIC SETTINGS....74
Boiler primary side – Parameter 12....74
Buffer amplifier operation mode – Parameter 59....75
Cable diagram COM-Basis....13
Cable diagram Expansion Modules 14
Cable diagram motherboard....12
Caution....7
Configuration Facility Scheme....8
Connection of extension modules (heat circuit modules)....10
Connection to CPU / console terminal....10
Danger of freezing....7
Danger of scalding....7
Decreasing operation....80
Electrical Connections....10
Expansion Module 1....
Circulation pump for Basis C....52
External set-point selection 0-10V / 0-20mA....51
Heating circuit controlled....47
Intermediate circuit pump....55
Requirement of addition heat generators....54
Room control with optimization....49

Room control without optimization....48
Room thermostat....50
Switching valve for additional heat generators....53
WW load module controlled for Basis C....52
Expansion Module 2....
Circulation pump for Basis D....61
External set-point selection 0-10V / 0-20mA....60
Heating circuit controlled....56
Intermediate circuit pump....64
Requirement of addition heat generators....63
Room control with optimization....58
Room control without optimization....57
Room thermostat....59
Switching valve for additional heat generators....62
WW load module controlled for Base D....61
Expansion Module 3....
Circulation pump for Basis C....70
External set-point selection 0-10V / 0-20mA....69
Heating circuit controlled....65
Intermediate circuit pump....73
Requirement of addition heat generators....72
Room control with optimization....67
Room control without optimization....66
Room thermostat....68
Speed control module....70
Switching valve for additional heat generators....71
Final value at 0-10V – Parameter 64....76
Flow temperature at frost – Parameter 29....75
Frost protection at outside temperature – Parameter 30....75
Full night decrease – Parameter 24....74
General control specifications....78
Heating operation....80
Hysteresis thermostat control – Parameter 26....74
Individual configuration....8
Legionella heating....7
No night decrease – Parameter 25....74
Notification of the outside temperature for shut-off – Parameter 34....75
Notification outside temperature for control – Parameter 28....74
Offset outside temperature – Parameter 13....74
On/Off increase – Parameter 23....74
Periods of time heater – Parameter 67....76
Quick configuration....8
Release and entrance to the service level....8
Release and input to parameter level....74
Safety Instructions....7
Shut-off pumps – Parameter 22....74
Speed Control Module....16
Supply and outputs (230V~)....11
Technical Data....77
Temperatures allowed....7
Types of operation....
Automatic operation....80
Boiler operation....80
Decreasing operation....80
Heating operation....80
MAINTENANCE....80
Off / frost protection....80
Party mode....80

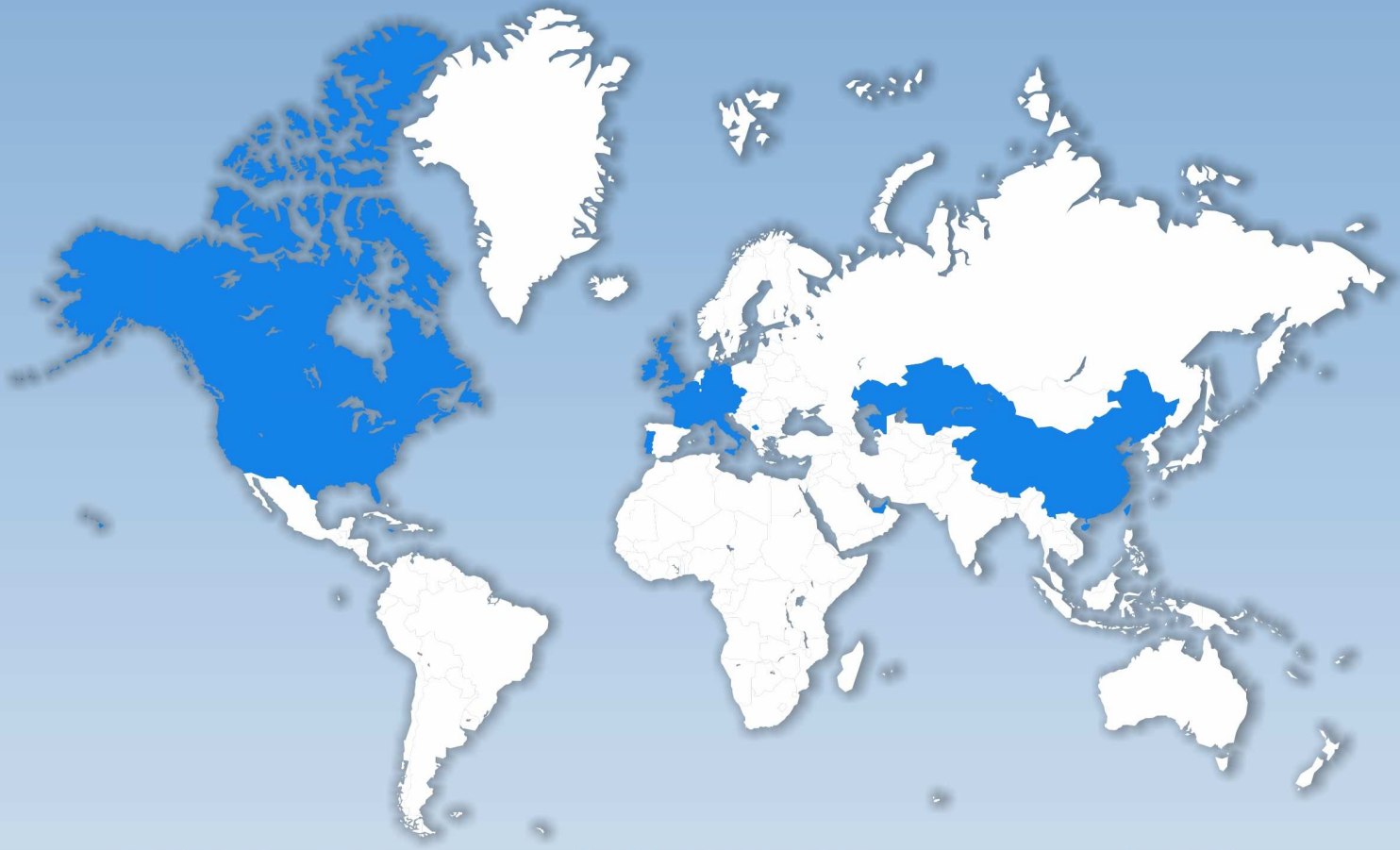
Our services in summary



Hardware
Development at first hand

Project management
Supervise and achieve your goals

Software
Solve custom demands and requirements



Monitoring system
The entire system at a glance

Quality management
Safeguards a first-class quality

Support
Your concern is our request

© 2016 **SCHNEID** GesmbH
Gewerbering 16
8054 Graz/Pirka, Austria
Phone: +43 (0) 316 28 50 22 - 0
Fax: +43 (0) 316 28 50 22 - 21
www.schneid.at