

Installation and Operating instructions

**Digital weather-compensated
controller DWT**

for gas fired boilers



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Safety instructions

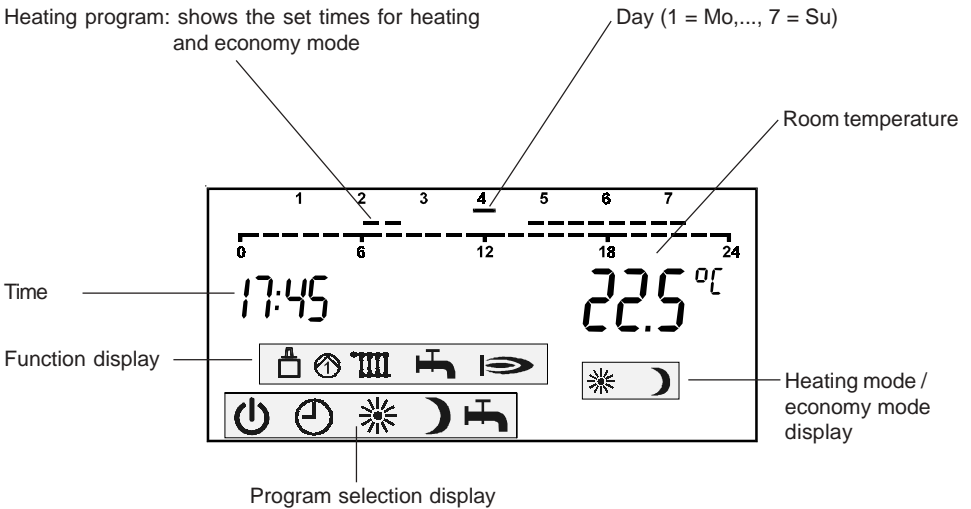
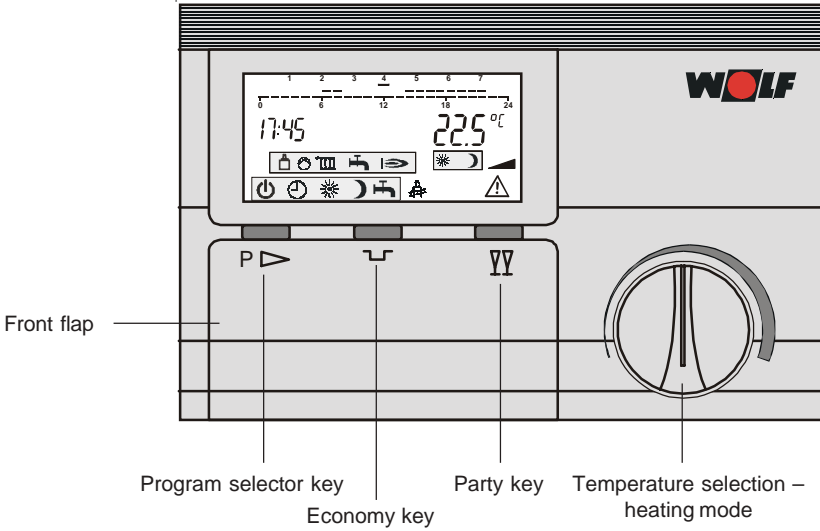
The following symbols are used in conjunction with these important instructions concerning personal safety as well as operational reliability.



"Safety instructions" are instructions with which you must comply exactly, to prevent injury and material losses.



This indicates technical instructions which you must observe to prevent material losses and boiler malfunctions.



Terminology**Heating water temperature**

The heating water temperature is the radiator flow temperature. The higher the heating water temperature, the higher the heat transfer to radiators.

Boiler

Gas fired boiler, which can be combined with a DHW cylinder.

Combi boiler

Gas fired boiler with an instantaneous water heater and DHW QuickStart.

Cylinder heating

Heating up the DHW cylinder.

DHW QuickStart

The heating water in the boiler will be held at a certain temperature during summer mode, to be able to supply hot water as rapidly as possible from the instantaneous water heater of the combi boiler. The DHW time program switches this function ON and OFF during summer mode.

Heating program

Subject to program selection, the heating time program switches the gas fired boiler from heating to economy mode or from heating mode to heating OFF and vice versa.

Domestic hot water program

In a combi boiler, the DHW time program controls the DHW QuickStart, and for a boiler with a DHW cylinder, the cylinder heating ON and OFF.

Winter mode

Central heating and DHW according to the heating and DHW time program.

Summer mode

Central heating OFF, DHW according to the DHW time program.

Heating mode/economy mode

In winter mode, two room temperatures can be selected. One for central heating and one for economy mode, when the room temperature will be setback to the economy temperature.

The heating program changes over between heating and economy mode.

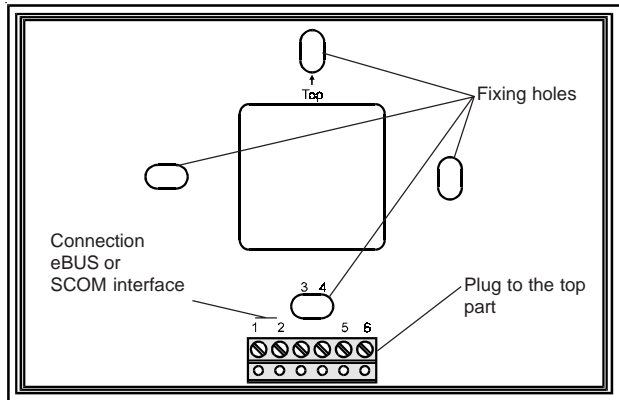
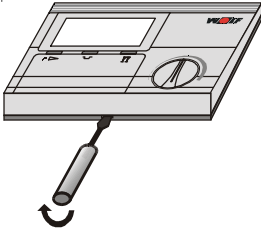
Standards and regulations

In gas fired combi boilers, the DWT digital weather-compensated thermostat complies with the following Directives:

- Gas Equipment Directive
- Low Voltage Directive
- EMC Directive

Assembly

- Install the DWT on an internal wall at a height of approx. 1.5 m.
- Install the DWT in a living room, which is representative of the entire living space.
- The DWT must not be subject to draughts or radiated heat.
- The DWT must not be obstructed by furniture or curtains.
- In this room, all radiator valves must be fully opened.
- Remove the base from the DWT.

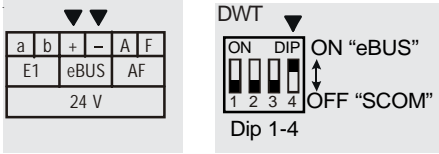


- Secure the thermostat base on the flush-mounting box (Ø55 mm) or with the rawl plugs supplied directly to the wall.

BUS interface setting (eBUS or SCOM)

Connection to Wolf boilers with eBUS interface

(CGB, CGS, TGC)



Wolf boilers are equipped either with an eBUS or a SCOM interface for control accessories. The interface can be selected with DIP switch 4 at the back of the DWT.

For boilers with eBUS interface, the BUS terminals "+" and "-" are marked together with "eBUS".

Push the DIP switch 4 into the ON position. Switches 1 to 3 remain OFF, if only one DWT is connected.

Setting the eBUS address

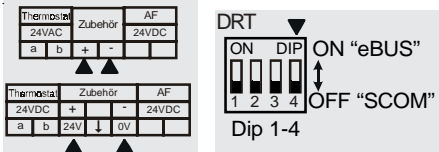
Using DIP switches 1-3, set one address for every DWT in systems with several DWT controllers (multi-boiler system with DWTM).

eBUS settings	
Address 0 (factory setting)	■ ■ ■ ■
Address 1	■ ■ ■ ■
Address 2	■ ■ ■ ■
Address 3	■ ■ ■ ■
Address 4	■ ■ ■ ■
Address 5	■ ■ ■ ■
Address 6	■ ■ ■ ■
Address 7	■ ■ ■ ■

Address list at the back of the controller PCB

Connection to Wolf boilers with SCOM interface

(TGU, TGG, GU-2, GG-2, TGB-11/20/40/60, GB-20-S)



For boilers with SCOM interface, the BUS terminals "+" and "-" are marked in accordance with connection diagrams with "(Wolf) accessories". Push switches 1 to 4 into the OFF position.

See DWTM installation and operating instructions if the DWT is set up as remote control for DWTM.

Note: In case of replacement for systems with DWT (part no. 27 33 002) and DWTM (part no. 27 33 007): Remove any jumper which may be inserted in the DWT base between terminal 3 and 4. DIP switch settings at the back of the DWT subject to parameter 19 in the DWTM:

a) Parameter 19 = 0 (DWTM)

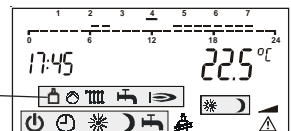


a) Parameter 19 = 1 (DWTM)



NB All accessory controllers (BUS users) must be set to the same boiler interface (eBUS or SCOM). A correctly adjusted BUS address, and with that the communication between all users, is indicated at every controller approx. 1 minute later.

BUS connection active

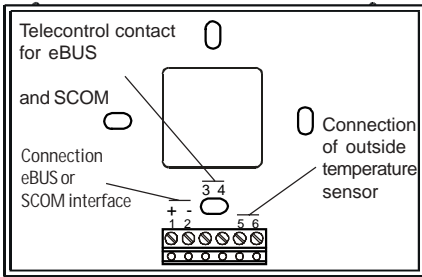


NB The electrical connection must only be carried out by a qualified electrician.

NB Do not route these cables alongside mains power cables.

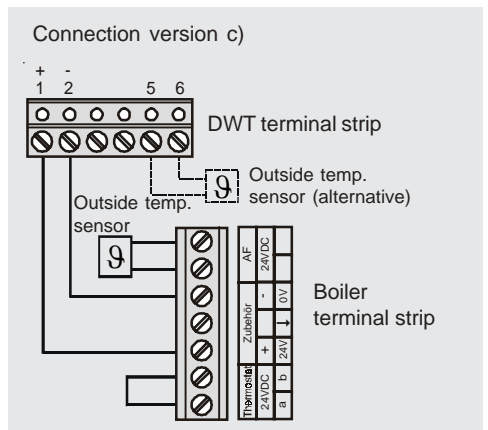
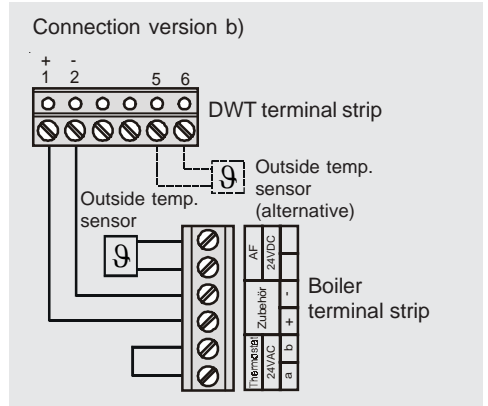
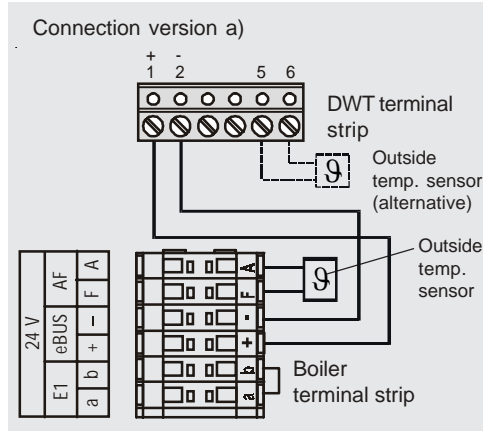
Wire the DWT with a 2-core cable (minimum cross-section 0.5 mm²) to the gas fired boiler. Subject to boiler terminal strip, select one of the adjacent wiring diagrams.

DWT base:

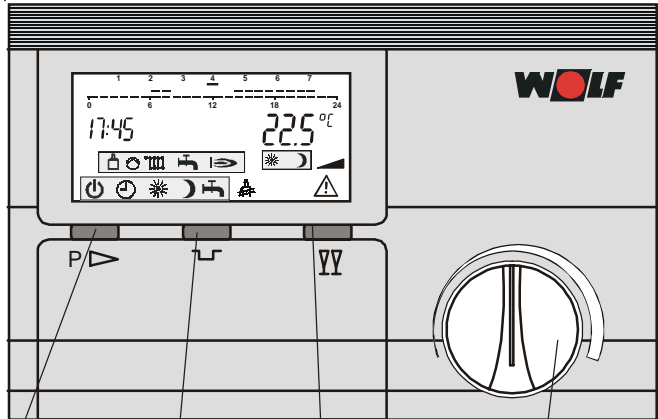


Reposition the DWT onto its base and click into place. When refitting the housing ensure, that the contact pins on the thermostat are not bent.

- The outside temperature sensor may be connected either to the boiler or to the DWT.
- Install the outside temperature sensor at a north or north-eastern wall at a height of 2-2.5 m above the ground (cable grommet pointing downwards).



Program selection



Program selector key Economy key Party key Temperature selection – heating mode

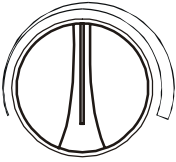
Important: This must be set to for gas fired boilers with program selector.

Operating mode	Display - prog. select.	Central heating	DHW boiler	DHW combi boiler
Standby		Central heating OFF / Frost protection	Cylinder heating OFF	DHW QuickStart OFF
Summer mode		Central heating OFF / Frost protection	Cylinder heating according to DHW program	DHW QuickStart acc. to DHW program 1)
Winter mode		Economy mode	Cylinder heating according to DHW program	
		Heating mode	Cylinder heating according to DHW program	
		Heating or economy mode according to heating program	Cylinder heating according to DHW program	
		Heating mode or central heating OFF according to heating program	Cylinder heating according to DHW program	

1) Only for equipment with DHW QuickStart

Function display

- Connection to the gas fired boiler OK
- Heating circuit pump ON
- Heating mode
- Cylinder heating or DHW draw-off ON
- Burner ON

Temperature selection – heating mode

Setting the required room temperature for heating mode. This setting only applies to heating mode, not to economy mode.

Turning the selector changes the display from current room temperature to set room temperature.

Then you can change the desired room temperature for heating mode. If no change is made within 2 s, the display will again show the current room temperature.

Note: The set value only applies to the room temperature of the room in which DWT is installed in case of room temperature dependent heating mode (heating curve = 0) or for weather-compensated heating mode with room influence (see room influence). The set temperature is only an approximate value for purely weather-compensated control (heating curve 0.2 – 3.0 and room influence = 0).

Economy key

If you press \square , four zeros will appear in the display; further pressing will set the control unit for one hour to economy mode, irrespective of the heating program selected. If the boiler is already operating in economy mode, this mode will be extended by a further hour. Pressing \square again will extend the economy mode by a further hour, pressing \square will reduce the current operation by one hour. The indicator will return to 0 if more than 24 hours are entered. The room temperature will again be displayed 5 s after the last input. The previously selected economy mode can be cancelled again by pressing \square .

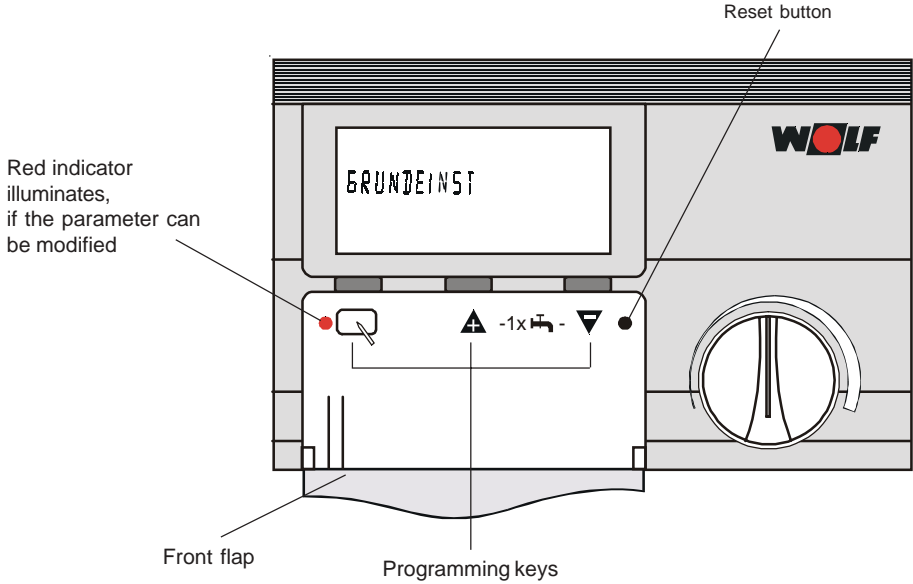
Party key

The display will show four zeros after pressing \square . The control unit will select one hour heating mode, if this key is pressed again, independent of the heating program selection. If the boiler is already operating in heating mode, this mode will be extended by a further hour. Pressing \square again will extend the heating mode by a further hour, pressing \square will reduce the current operation by an hour. The indicator will return to 0 if more than 24 hours are entered. The room temperature will again be displayed 5 s after the last input. The previously selected heating mode can be cancelled again by pressing \square .

Note: The economy and party keys have no effect on DHW heating.


DWT controls

After opening the front flap, the control unit changes to programming mode and the display shows STANDARD SETTINGS. With the open flap, the following settings can be displayed or modified:

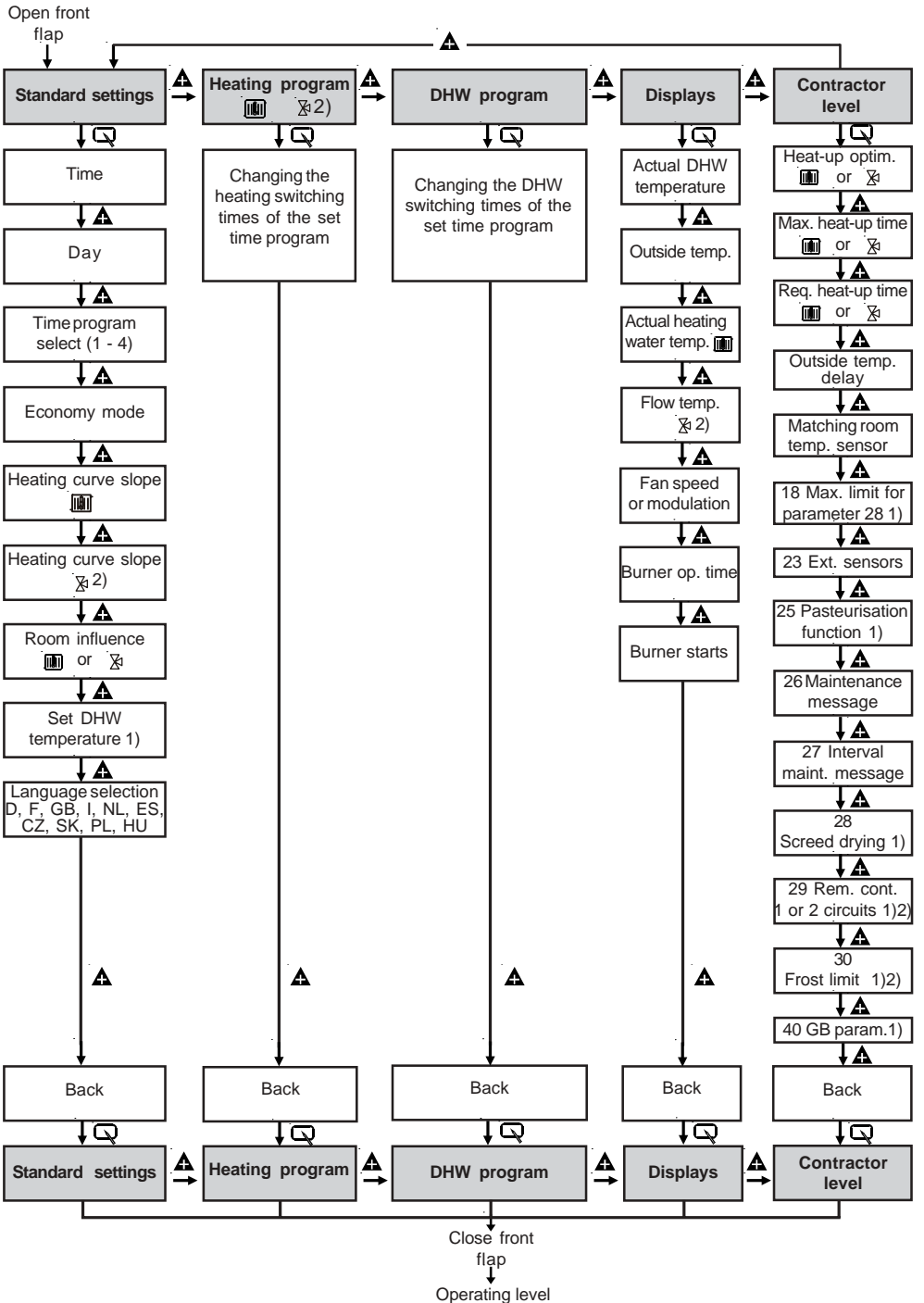


Legend for the adjacent table:

- 1) Only with eBUS interface
- 2) An additional time program will be displayed for the mixer circuit only, if the DWT is used as remote control unit for the DWTM.

 Mixer circuit symbol

 Symbol for direct heating circuit



Standard settings

All adjustable parameters as well as four time switch programs are set at the factory and saved to non-volatile memory. After commissioning, only the time and day of the week must be adjusted on-site.

Access to standard settings only requires opening the front flap. For access to this level press . Select individual parameters with and .

Parameter	Display	Factory setting	Settings range	Change
Time		10:00	00:00-24:00	→ or →
Day		Monday	Monday – Sunday	→ or →
Time program		1	1 - 4	→ or →
Economy temp.		12 °C	5 - 30 °C	→ or →
Heating curve direct heating circuit		1.2	0 - 3	→ or →
Heating curve mixer circuit 2)		0.8	0 - 3	→ or →
Room influence		0	0 - 20	→ or →
SetDHW temperature 1)		60	15 - 65 °C or 40 - 63 °C	→ or →
Language selection		D	D, F, GB, I, NL, ES, CZ, SK, PL, HU	→ or →

1) Only with eBUS interface;
this leaves the DHW thermostat at the boiler disabled.

2) Will only be displayed, if the DWT is used as remote control unit for the DWTM.

Time program

The digital weather-compensated control thermostat has four time programs for heating and DHW mode, which are preset at the factory. For switching times, see the following table. All time programs can be modified and saved.

Time program 1	Heating and DHW	Mo-Su 6:00 - 22:00 Mo-Su 5:00 - 22:00	Day program Mo-Su
Time program 2	Heating and DHW	Mo-Fr 6:00 - 8:00 and 16:00 - 22:00 Sa-Su 7:00 - 23:00 Mo-Fr 5:00 - 8:00 and 15:00 - 22:00 Sa-Su 6:00 - 23:00	Simple day program Mo-Fr and Sa-Su
Time program 3	Heating and DHW	Mo, Tu, We, Th, Fr, Sa, Su 8:00 - 23:00 Mo, Tu, We, Th, Fr, Sa, Su 7:00 - 23:00	Individual times can be set for every day
Time program 4	Heating and DHW	Mo, Tu, We, Th, Fr 7:00 - 16:00 Sa, Su — — Mo, Tu, We, Th, Fr 6:00 - 16:00 Sa, Su — —	Individual times can be set for every day

Economy temperature

During economy mode the temperature selected in the standard setting ECON TEMP applies, not the temperature selected at the rotary selector. The set economy temperature is only an approximate value when the room influence = 0.

Heating curve

This selection will be made by the heating contractor separately for each heating circuit, subject to the heating system, the thermal insulation of the building and the relevant climatic zone.

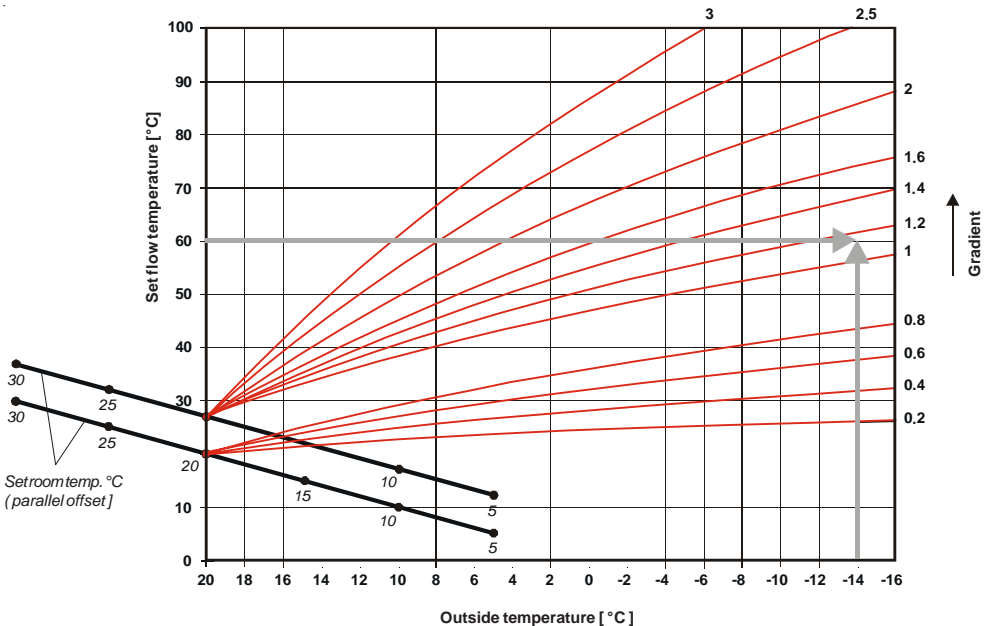
Setting the gradient of the heating curve will match the heating water temperature to these conditions.

Diagram 1 indicates an example applicable to the following heating system:

- climate zone with average minimum outside temperature of -14 °C
- radiators for flow/return temperatures 60/50 °C

For all other conditions, match the gradient to the prevailing circumstances. The slope must always be set so that, at the min. outside temperature, the max. radiator flow temperature or that of the underfloor heating system will be achieved.

As rule of thumb, a slope of 1.0 to 1.4 can be used for a radiator heating system, and a slope of 0.4 to 0.8 for underfloor heating systems.



From heating curve gradient 1.0 upwards, low end raising provides sufficient comfort for higher outside temperatures in rooms equipped with radiators.

Please note: A purely room temperature dependent heating water temperature control results automatically, if the heating curve is set to 0.

Room influence

The room temperature sensor integrated into the weather-compensated DWT controller can be included in the calculation of the heating water temperature. You can adjust the extent to which the room temperature sensor influences the calculation by various room temperature influencing factors (K = 0 - 20). The higher the selected factor, the greater the effect of the room temperature sensor. If no outside temperature sensor is installed or an outside temperature sensor lead break is recognised (resistance = infinite), the system will automatically operate purely as a room thermostat.

Room influence K = 0 → purely a weather-compensated heating water temperature

Room influence K = 20 → purely room temperature dependent heating water temperature

Please note: When using the DWT as remote control unit for the DWTM: The room influence will only apply for the addresses selected with the DIP switches, if both heating circuits are remote controlled by the DWT (par. 29 at the DWT set to 1).

Address 0 = room influence applies to the direct heating circuit

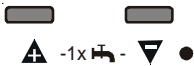
Address 1 = room influence applies to the mixer circuit

Language selection

The following languages may be selected:

D	German
F	French
GB	English
I	Italian
NL	Dutch
ES	Spanish
CZ	Czech
SK	Slovakian
PL	Polish
HU	Hungarian

Heating DHW once



If DHW is required outside the period where DHW heating is enabled, the DHW cylinder can be heated to the set temperature by means of function "1 x DHW".

Pressing keys ▲ and ▼ simultaneously with the front flap open either activates or deactivates this function.

Function "1 x DHW" will be deactivated automatically after one hour.

Summer/winter

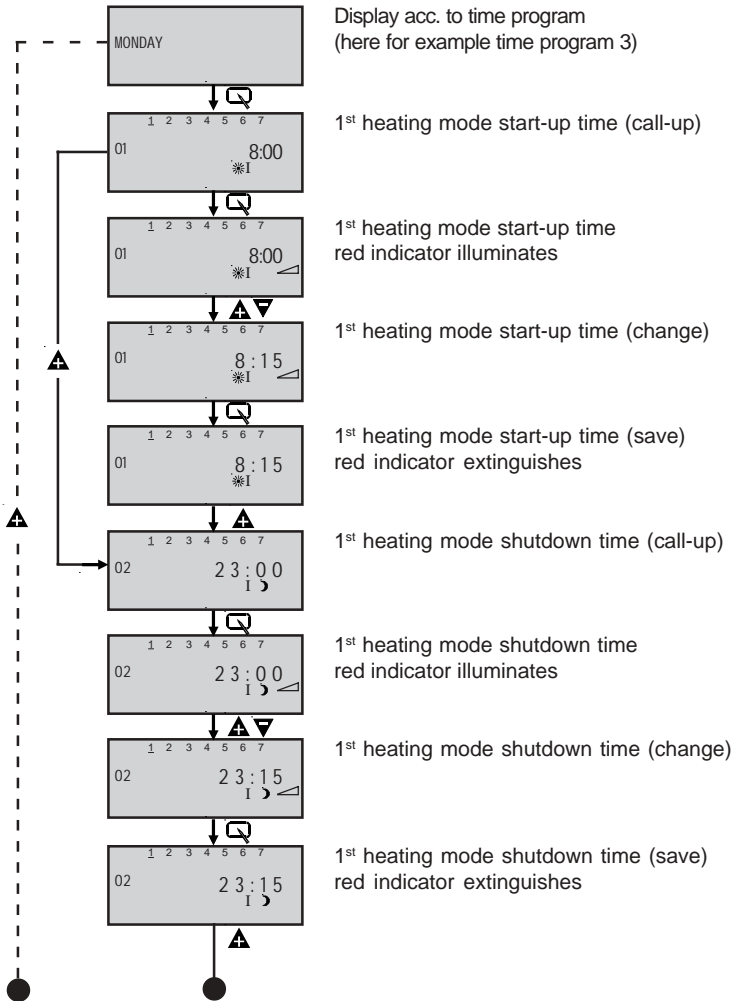
To select the current summer/winter time, adjust the relevant time, as described on page 12 (not required when connecting a radio clock module).

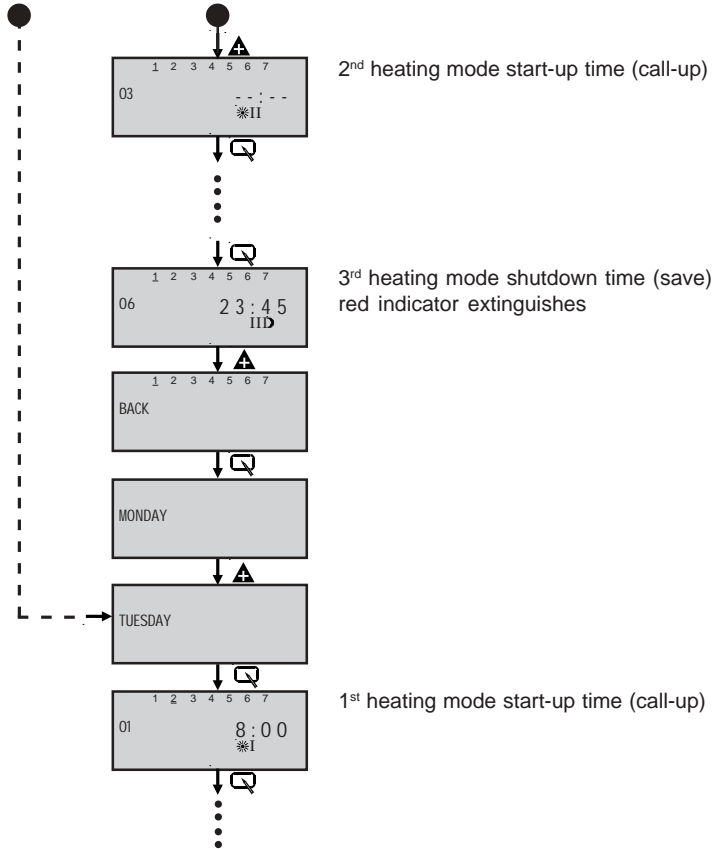
Modifying switching times (Heating program)

You can individually modify the switching times of the time programs (1 - 4) selected under the standard setting TIME PROG in the heating program. **Three** ON and OFF times are available for the individual days displayed. Always enter ON and OFF times as pairs.

Access to standard settings only requires opening the front flap. Select HEAT PROG with ▲ or ▼. For access to this level press □.

Setting example





The setting example shows time program 3.
All other time programs can be changed as above.

Note:

In case of block formation, a time input beyond midnight must be made according to the following example:

Example: In time program 1 (week program), central heating should take place the following day from 16.00 - 03.00 h. For this, set the following times:

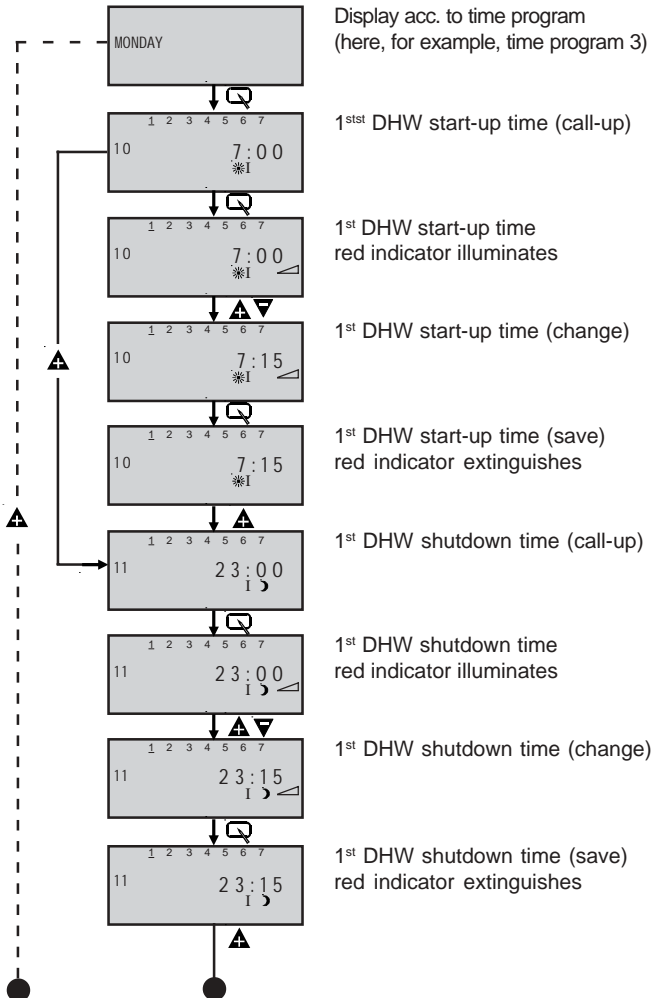
- 1st Start-up time Heating mode: 00:00
- 1st Shutdown time Heating mode: 03:00
- 2nd Start-up time Heating mode: 16:00
- 2nd Shutdown time Heating mode: 24:00

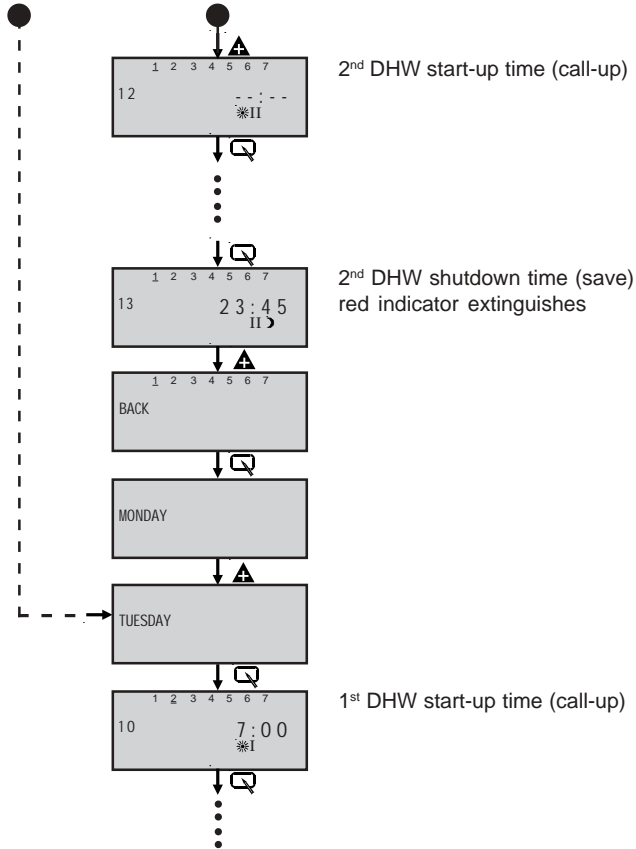
Modifying switching times (DHW program)

You can individually modify the switching times of the time programs (1 - 4) selected under the standard setting TIME PROG in the DHW program. **Two** ON and OFF times are available for the individual days displayed.

Setting example

Access to standard settings only requires opening the front flap. Select DHW PROG with **▲** or **▼**. For access to this level press key **□**.





The setting example shows time program 3.
All other time programs can be changed as above.

The set DHW program applies to all boilers with DHW cylinder for cylinder heating, and for combi boilers for DHW QuickStart.

The adjusted central heating and DHW programs are saved to non-volatile memory. If the power reserve (minimum 10 hours) expires, only the time and day of the week need to be reset.

Displays

Access to standard settings only requires opening the front flap. Select DISPLAYS with or . For access to this level press . Select individual parameters with and .

Parameter	Display (actual value)	Set value
Domestic hot water		→
Outside temperature		_____
Max. outside temp. (determined over 24 h 0.00 - 24.00 h)		→ →
Min. outside temp. (determined over 24 h 0.00 - 24.00 h)		→ →
Flow temperature heating circuit		→
Mixer circuit flow temp.		→
Fan speed (r.p.m.) or modulation %		_____
Burner runtime (10 h)		_____
Burner starts (100 starts)		_____

Reset

Parameter	Display	Reset
Burner runtime		→
Burner starts		→

Note: It is recommended to note down the date of the reset, in order to allocate the burner runtime or the number of burner starts, e.g. to a particular year.

Heating contractor

Access to standard settings only requires opening the front flap. Select CONTRACTOR with or . For access to this level press . Select individual parameters with keys and .

Parameter	Display	Factory setting	Settings range	Change
Heat-up time optimisation		0	0 or 1	or
Maximum heat-up time		0	0 - 3 h	or
Required heat-up time		_____	_____	_____
Outside temperature delay		0	0 - 3 h	or
Matching room temperature sensor		0 °C	-5 °C to +5 °C	or
18 Max. limit for parameter 28		45 °C	20 °C to 80 °C	or
23 External sensor		1	_____	or
25 Pasteurisation function		0	0 - 8	or
26 Maintenance message		0	0 / 1	or
27 Interval maint. message		52	25 - 100 Weeks	or
28 Screed drying		0	0 - 2	or

29 Remote control unit 1 or 2 heating circuit		1	0 - 1	
30 Frost limit		2	-5 to +5	
40 GB - parameters				
Hysteresis flow temperature		 These parameters may vary, subject to equipment version. See gas fired boiler installation instructions.	1 - 20	
Upper fan speed - heating			30 -100	
Frost protection outside temperature			-10 -10	
Heating circuit pump mode			0 / 1	
Heating circuit pump run-on			1 - 30	
Maximum set flow temperature			20 - 90	
Cycle block			0 - 30	
Input 1			0 - 5	
Output 1			0 - 9	
DHW cylinder hysteresis				1 -15

Heat-up time optimisation

The heat-up time optimisation determines, within at least six hours setback time, the required heat-up time during economy mode, so that the required room temperature has already been achieved at the selected time (time program). The automatic heat-up time optimisation can be implemented subject to the room temperature or the outside temperature. The heat-up time optimisation is switched ON by parameter "Maximum heat-up time".

- 0 → weather compensated heat-up time optimisation
- 1 → room temperature dependent heat-up time optimisation

Information regarding the use of DWT as remote control unit for the DWTM: The heat-up time optimisation will only apply for the addresses selected with the DIP switches, if both heating circuits are remote controlled by the DWT (par. 29 at the DWT set to 1).

Address 0 = heat-up time optimisation applies to the direct heating circuit
Address 1 = heat-up time optimisation applies to the mixer circuit

Maximum heat-up time

This parameter defaults the maximum heat-up time during which heat-up time optimisation can take place. Heat-up time optimisation will not take place, if "0" has been entered for maximum heat-up time. If "0" has not been selected for maximum heat-up time, the duration for the required heat-up time will be calculated from the time of the maximum advance offset.

Required heat-up time

This value shows the heat-up time, which was last required. Display only.

Outside temperature adjustment

Subject to thermal insulation, every building will react differently to changes in the outside temperature. This means, that when the outside temperature changes, the heating system must match the heating water temperature more or less quickly to the external circumstances. With the weather-compensated DWT control thermostat, this may be achieved by an outside temperature adjustment. This adjustment may be selected from 0 to 3 hours.

- 0 h → light construction (timber)
- 3 h → solid construction (brick)

Room sensor matching

The current display can be modified by +/- 5 K, to match the room temperature display to the installation conditions or other thermometers. The adjusted display value will be applied to all calculations of relevant functions.

Parameter 18

Max. limit for parameter 28

Parameter 18 will be displayed, if par. 28=1 or 2 and no DWTM is connected as well. This parameter will then limit the set flow temperature for screed drying or a heating circuit to be operated at a constant temperature. If a DWTM is connected, par. 18 in the DWTM acts as flow temperature limiter for the functions to be activated in par. 28.

Please note: Boiler shutdown = par. 18 (DWT) + hysteresis (factory setting 8 K). Take the hysteresis into account when determining the maximum screed temperature.

Parameter 25

Pasteurisation function (only eBUS)

If pasteurisation has been enabled, the DHW cylinder will be heated to 65 °C during the first cylinder heating of the day in accordance with the switching times program. This set temperature will be maintained for one hour.

- Parameter 25 = 0 Pasteur. OFF
- Parameter 25 = 1 - 7 Pasteur. once a week (1=Mo; 7=Su)
- Parameter 25 = 8 Pasteur. daily

Parameter 26
Maintenance message

If maintenance message is enabled, the message "MAINTENANCE" will be displayed after X weeks (in accordance with the setting of parameter 27). You can acknowledge this message by pressing the economy key . Afterwards, the cycle starts again.

Parameter 27
Interval until maintenance message

This parameter indicates the number of weeks, after the expiry of which the maintenance message will be displayed.

Parameter 28
Screed drying

If an underfloor heating system is started for the first time in new buildings, the set flow temperature may, as an option, be controlled independent of the outside temperature a) to a constant value or b) to control the set flow temperature in accordance with an automatic screed drying program. If this function has been enabled (setting 1 or 2), it can be terminated by resetting par. 28 to 0.

Par. 28 = 0 no effect

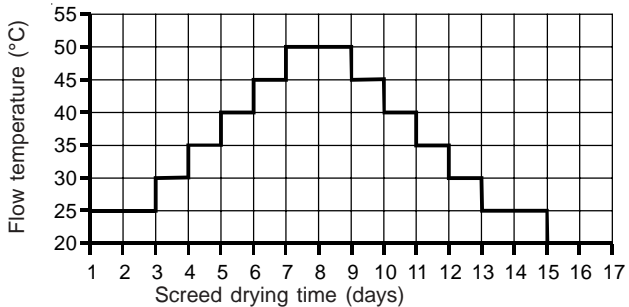
Par. 28 = 1 mixer circuit with a constant temperature

The mixer circuit is heated to the set flow temperature. The flow temperature can be adjusted with the heating operation temperature selector between 15 °C and TV max. (parameter 18).

Par. 28 = 2 screed drying function

For the first two days, the set flow temperature will remain constant at 25 °C. It will then be automatically raised every day (at 0.00 h) by 5 °C steps up to TV max (par. 18). That temperature will then be held for two days. Subsequently, the flow temperature is automatically reduced again in steps of 5 °C per day down to 25 °C. The program sequence is terminated after a further two days.

Fig.:
Flow temperature progress during screed drying (parameter 18 = 50 °C)



Please note:



Agree the time sequence and the maximum flow temperature with the screed contractor, otherwise the screed may be damaged, particularly through cracking.

Parameter 29

Remote control for 1 or 2 heating circuits (only eBUS and in conjunction with DWTM)

If the DWT is used as remote control unit for the DWTM, the first DWTM may be used to control both heating circuits (heating and mixer circuit) or alternatively only one heating circuit.

- 0 → The DWT then only controls that heating circuit or that mixer circuit. (allocation of the DWTM in accordance with address allocation)
- 1 → The DWT with address 0 or 1 then controls that heating circuit and that mixer circuit. An additional time program will then be displayed for the second circuit.

After changing the parameter(s), switch the ON/OFF switch first OFF and then ON.

Parameter 30

Frost protection temperature (only eBUS and DWTM)

The mixer circuit pump starts, and the mixer circuit temperature will be regulated in accordance with a set room temperature of 5 °C, if the outside temperature falls below the frost protection limit. The electric valve starts. The frost limit selected here only applies to the heating circuits connected to the DWTM.

Note:

Only change the factory setting if you can ensure that the heating system will not freeze up at low outside temperatures.

Automatic summer and winter changeover

Program selection ☀ or ☾ :

The DWT will automatically change over to summer mode, if the outside temperature rises 1 K above the set temperature selection for heating mode. The system automatically reverts to winter mode, when the outside temperature falls below the temperature selected for heating mode.

In addition for heating mode with room influence > 0:

The DWT will automatically change to summer mode, if the room temperature rises 1 K above the room temperature selected for heating mode. The system automatically reverts to winter mode, when the room temperature falls below the selected set room temperature.

Also for program selection ☾

The DWT will automatically change to summer mode, if the set heating water temperature falls below 20 °C. The system automatically reverts to winter mode, when the set heating water temperature rises above 21 °C.

Special case: Heating curve = 0 (only room thermostat)

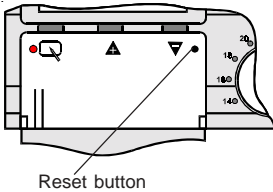
Program selection ☀ or ☾ :

The DWT will automatically change to summer mode, if the room temperature rises 1 K above the temperature selected for heating mode. The system automatically reverts to winter mode, when the room temperature falls below the set heating mode temperature.

Room temperature dependent frost protection in summer mode

An additional room temperature dependent frost protection function has been integrated into the DWT (the outside temperature dependent frost protection has been integrated into the gas fired boiler). The heating circuit pump and if required, the burner, are switched ON at +5 °C room temperature. Frost protection ends at +6 °C.

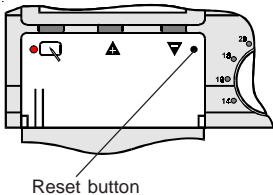
Partial RESET



All adjustable parameters will be reset to their factory-set defaults with "Partial reset". Exceptions are parameters "BUS ID", "Language selection" and switching times.

Open the front flap and push the reset button simultaneously with using a ballpoint pen or similar instrument. Release the reset button and hold down until the display shows STANDARD SETTINGS.

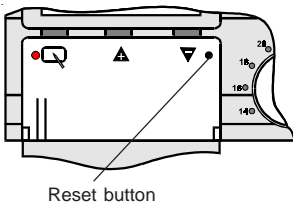
Complete RESET



All adjustable parameters and switching times will be reset to their factory-set defaults with "Complete reset".

Open the front flap and push the reset button simultaneously with and using a ballpoint pen or similar instrument. Release the reset button and hold down and until the display shows STANDARD SETTINGS.

Processor RESET



Fault "81" occurs, when a parameter has an invalid value. The "incorrect" parameter is reset to its factory setting, and an error message will be displayed. The error message can be reset with "Processor reset".

The processor will be restarted with "Processor reset". Open the front flap and press the reset button using a ballpoint pen or similar instrument.

Emissions test mode



The DWT display will additionally show symbol if emissions test mode has been selected at the boiler program selector switch.

Fault display





Any boiler fault will indicated by a fault code number, which will flash in the boiler display. The error signal will be transferred to the digital weather-compensated DWT room thermostat. The DWT display will show the word "FAULT" as well as the fault code number. In addition, warning symbol will flash in the display.

Fault codes

In case of faults, the following codes will assist in locating their cause.

No.	Fault
1	Excess temperature (high limit safety cut-out)
4	No flame established
5	Flame failure during operation
6	STW excess temperature
7	STBA excess temperature
8	Flue gas damper does not activate
11	Flame pretence
12	Heating water temperature sensor faulty
13	Flue gas temperature sensor faulty
14	DHW sensor faulty
15	Outside temperature sensor at the control unit faulty
16	Return sensor faulty
17	The modulation current is outside its set range.
20	Fault – gas valve circuit V2
21	Fault – gas valve circuit V1
22	Lack of air
23	Differential pressure switch fault
25	Gas fan, fault
26	Gas fan, fault
30	CRC fault boiler
31	CRC fault burner
32	Fault in 24 V AC supply
40	Low water indicator
41	Return temperature > flow temperature +25 K
60	Siphon back pressure
61	Flue gas system back pressure
80	Outside temp. sensor connected to the DWT faulty
81	EEPROM fault in DWT
91	Incorrect address set at the DWT
99	Internal fault – control PCB

If the device will not operate properly after the gas fired boiler has been reset twice, or if the boiler cannot be reset, inform your heating contractor of the fault code displayed.

If settings cannot be carried out on the DWT using the program selector key , set the program selector switch on the boiler control unit into position .

Fault code 15: Fault code 15 will be displayed at the DWT, if no outside temperature sensor is connected or the outside temperature sensor fitted to the control PCB is faulty.

=> The heating circuit pump runs permanently, and the DWT acts as a room controller.

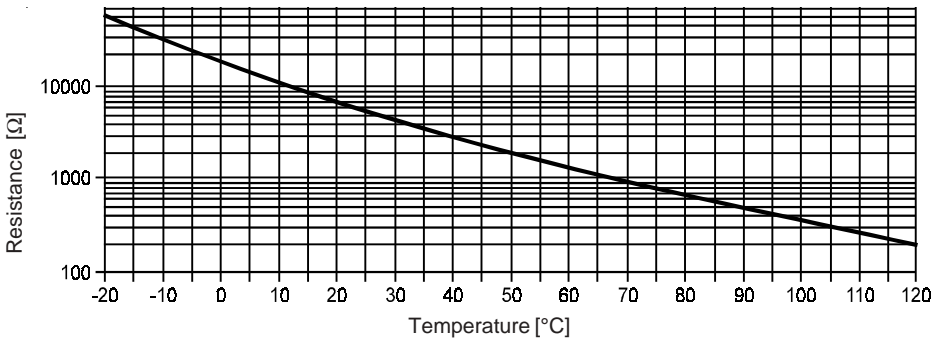
Fault code 91: Two controllers (e.g. DWT, DRT) are set to the same BUS address in systems with several controllers. Correct the address settings using the DIP switches on the respective controllers.

Sensor resistances

Heating water sensor, DHW sensor, return sensor, outside temperature sensor, flue gas sensor

Temperature °C	Resistance Ω	Temperature °C	Resistance Ω	Temperature °C	Resistance Ω	Temperature °C	Resistance Ω
-21	51393	14	8233	49	1870	84	552
-20	48487	15	7857	50	1800	85	535
-19	45762	16	7501	51	1733	86	519
-18	43207	17	7162	52	1669	87	503
-17	40810	18	6841	53	1608	88	487
-16	38560	19	6536	54	1549	89	472
-15	36447	20	6247	55	1493	90	458
-14	34463	21	5972	56	1438	91	444
-13	32599	22	5710	57	1387	92	431
-12	30846	23	5461	58	1337	93	418
-11	29198	24	5225	59	1289	94	406
-10	27648	25	5000	60	1244	95	393
-9	26189	26	4786	61	1200	96	382
-8	24816	27	4582	62	1158	97	371
-7	23523	28	4388	63	1117	98	360
-6	22305	29	4204	64	1078	99	349
-5	21157	30	4028	65	1041	100	339
-4	20075	31	3860	66	1005	101	330
-3	19054	32	3701	67	971	102	320
-2	18091	33	3549	68	938	103	311
-1	17183	34	3403	69	906	104	302
0	16325	35	3265	70	876	105	294
1	15515	36	3133	71	846	106	285
2	14750	37	3007	72	818	107	277
3	14027	38	2887	73	791	108	270
4	13344	39	2772	74	765	109	262
5	12697	40	2662	75	740	110	255
6	12086	41	2558	76	716	111	248
7	11508	42	2458	77	693	112	241
8	10961	43	2362	78	670	113	235
9	10442	44	2271	79	649	114	228
10	9952	45	2183	80	628	115	222
11	9487	46	2100	81	608	116	216
12	9046	47	2020	82	589	117	211
13	8629	48	1944	83	570	118	205

NTC sensor curve



Specification

Supply voltage	18 VDC \pm 15%
Power consumption	max. 1 V A
Protection according to DIN 60529	IP30
Protection class according to VDE 0100	III (max. 24 V)
Time switch power backup	min. 10 h
Permissible ambient temp. - operation	0 to 50 °C
Permissible ambient temp. - storage	-30 to +60 °C
Communication and power supply via 2-core cable to the gas fired boiler boiler (cross-section 0.5 mm ²)	

Parameter setup report

Parameter	Setting options	Factory setting	Individual settings
Economy temperature (night setback)	5 - 30 °C	12 °C	
Heating curve slope	0 - 3.0	1.2	
Room influence	K = 0 - 20	K = 0	
Language selection	D, F, GB, I, NL, SK ES, CZ, PL, HU	D	
Heat-up time optim.	0 or 1	0	
Max. heat-up time	0 - 3 h	0:00 h	
Outside temperature delay	0 - 3 h	0:00 h	
Room sensor matching	-5 to +5 °C	0 °C	

Preset time programs

Time program 1	Heating	Mo-Su	6:00 - 22:00
	and DHW	Mo-Su	5:00 - 22:00
Time program 2	Heating	Mo-Fr	6:00 - 8:00 and 16:00 - 22:00
	and DHW	Sa-Su	7:00 - 23:00
		Mo-Fr	5:00 - 8:00 and 15:00 - 22:00
		Sa-Su	6:00 - 23:00
Time program 3	Heating	Mo, Tu, We, Th, Fr, Sa, Su	8:00 - 23:00
	and DHW	Mo, Tu, We, Th, Fr, Sa, Su	7:00 - 23:00
Time program 4	Heating	Mo, Tu, We, Th, Fr	7:00 - 16:00
	and DHW	Sa, Su	— —
		Mo, Tu, We, Th, Fr	6:00 - 16:00
		Sa, Su	— —

Setting report for individual adjustments

			1 st ON	1 st OFF	2 nd ON	2 nd OFF	3 rd ON	3 rd OFF
Time program 1	Heating	Mo-Su						
	DHW	Mo-Su						
Time program 2	Heating	Mo-Fr						
		Sa-Su						
	DHW	Mo-Fr						
		Sa-Su						
Time program 3	Heating	Mo						
		Tu						
		We						
		Th						
		Fr						
		Sa						
		Su						
	DHW	Mo						
		Tu						
		We						
		Th						
		Fr						
		Sa						
Su								
Time program 4	Heating	Mo						
		Tu						
		We						
		Th						
		Fr						
		Sa						
		Su						
	DHW	Mo						
		Tu						
		We						
		Th						
		Fr						
		Sa						
Su								

