Instructions for use

Extension board Heating circuits EWP HK

BRUNNER®
made in germany.

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1 About this document

1.1 Target group of the instructions

These instructions for Extension board 'Heating circuits' (EWP HK) are intended for the operator of the system.

The **PIN** code for the operator is **9999**.

1.2 Validity of the instructions

The documentation for the product Extension board 'Heating circuits' (EWP HK) is valid from November 2015.

Ulrich Brunner GmbH reserves the right to make technical changes insofar as they serve technical progress or are required by safety regulations.

1.3 Storage of the documents

These instructions for Extension board 'Heating circuits' (EWP HK) are kept by the operator of Extension board 'Heating circuits' (EWP HK) after use **for future reference**.

IMPORTANT

READ CAREFULLY BEFORE USE

KEEP FOR FUTURE REFERENCE

The operator is responsible for keeping these operating instructions and all other applicable documents.

1.4 Symbols used

A **hazard** is a potential source of injury or damage to health.
A **risk** is the combination of a probability and the severity of injury or damage to health that can occur in a hazardous situation.
The **danger zone** is the area and radius in which the boiler with/without the heating system is located, in which the safety or health of a person could be at risk.
A **person at risk** is a person who is wholly or partially located in a danger zone.
The **operating personnel** are the persons responsible for installing, operating, setting up, maintaining, cleaning, repairing or transporting the system.

In this documentation, a distinction is made between:
Operating personnel as the **operator of the system**, i.e. the end customer who has been instructed by the specialist personnel and does not need to have any additional qualifications.
Operating personnel as a **specialist company** are the qualified specialists who are authorized to carry out the specified specialist work.

The following symbols are used in this document:

DANGER
There is a high-risk hazard that will result in serious injury or death if this hazard is not avoided.

WARNING
There is a possible medium-risk hazard that can lead to serious injury or death if this hazard is not avoided.

CAUTION
There is a low-risk hazard that can lead to minor or moderate injury if this hazard is not avoided.

NOTE

Additional helpful information

1.5 Presentation rules

The following presentation rules apply in this document for Extension board 'Heating circuits' (EWP HK):

Action instruction with several action steps
Used for activities or actions that contain several steps and where the chronological order of the individual action steps must be adhered to.

1. first action step;
2. second action step;
3. third action step, etc.

→ Final result.

Presentation of the display texts in the instructions
The display texts are shown in bold for descriptions of the settings on the BRUNNER touch display.

2 For your safety

2.1 Dangers and safety measures

The assembly, installation, maintenance and servicing of Extension board 'Heating circuits' (EWP HK) may only be carried out by a specialist company.

- Only carry out activities that are described in these instructions.

Electric shock
Work on the electrical installation may only be carried out by a qualified specialist company.

Avoid damage to the appliance and resulting hazards
Sprays, solvents or chlorinated cleaning agents, paints, adhesives etc. can, under unfavorable circumstances, cause damage to the appliance.

- Do not use sprays, solvents or cleaning agents, paints, adhesives, etc. containing chlorine in the vicinity of the appliance.
- Do not under any circumstances make any changes to parts or equipment of the heating system if these changes could impair operational safety.

Operate the Extension board 'Heating circuits' (EWP HK) safely.

Only use the expansion board if it is in perfect technical condition and in accordance with its intended use and in compliance with the operating instructions.
Look out for visible damage and contact a specialist company if necessary.

- Never remove or cover the stickers with the safety instructions on the product.
- The stickers must remain legible for the entire service life of the Extension board 'Heating circuits' (EWP HK).
- Replace the stickers with the safety instructions immediately if they are damaged or illegible.
- Do not store any highly flammable materials (e.g. solvents, petrol cans) near the Extension board 'Heating circuits' (EWP HK).
- This appliance is not intended for use or maintenance by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge.

2.2 Warnings

Warnings in this document are emphasized by pictograms and signal words.

The pictogram and the signal word indicate the type, the source or causes of a certain action. The necessary precautions or instructions to be followed are indicated.

The same applies to results or desired effect of an action.

These warnings refer to possible misuse of the system, which seems likely based on our experience.

Certain residual risks are also indicated.

The residual risks are inevitable:

- despite the safety measures considered in product design,

- despite the safety precautions,

- despite the complementary protective measures.

For certain points we have provided recommendations and instructions on how to use protective measures, including personal protective equipment.

Special safety instructions and recommendations are applied for transport, handling and storage.

Instructions for safe set up and maintenance include separate protective measures too.

Structure of warnings

The warnings that precede each assembly step, are shown as follows:

Danger

Type, source and causes of danger

Measures

Call for action

→ Result or safe use

2.3 Regulations

Standards and guidelines

the relevant safety requirements of DIN, EN, DVGW, TRGI and VDE

- EN 12828 Heating systems in buildings - Design of hot water heating systems
- EN 12831 Heating systems in buildings - Method for calculating the standard heating load
- DIN 4753 Water heating systems for drinking and process water
- DIN 1988 Technical rules for drinking water installations (TRWI)
- VDI 2035 Prevention of damage in hot water heating systems
- DIN VDE 0100 Part 540 2007-06 DIN VDE 0100-540 Installation of low-voltage systems

DIN VDE 0100 Part 701 2008-10 DIN VDE 0100-701 Installation of low-voltage systems

3 Product description

3.1 Intended use

The heating circuit extension board can only be used with the BRUNNER heating center BHZ or EWP Basis.

Intended use also includes observing all information on personal and material hazards in these operating instructions. Also comply with all country-specific standards and safety regulations.

Read and observe all information and recommendations on installation, operation and maintenance for the Extension board 'Heating circuits' (EWP HK) from this documentation.

3.2 Conformity

CE

We, the manufacturer, hereby declare that Extension board 'Heating circuits' (EWP HK) complies with the basic directives concerning the placing on the market in the EU.

3.3 Functional description

The heating circuit extension board is responsible for the heat management of the additionally connected heating circuits.

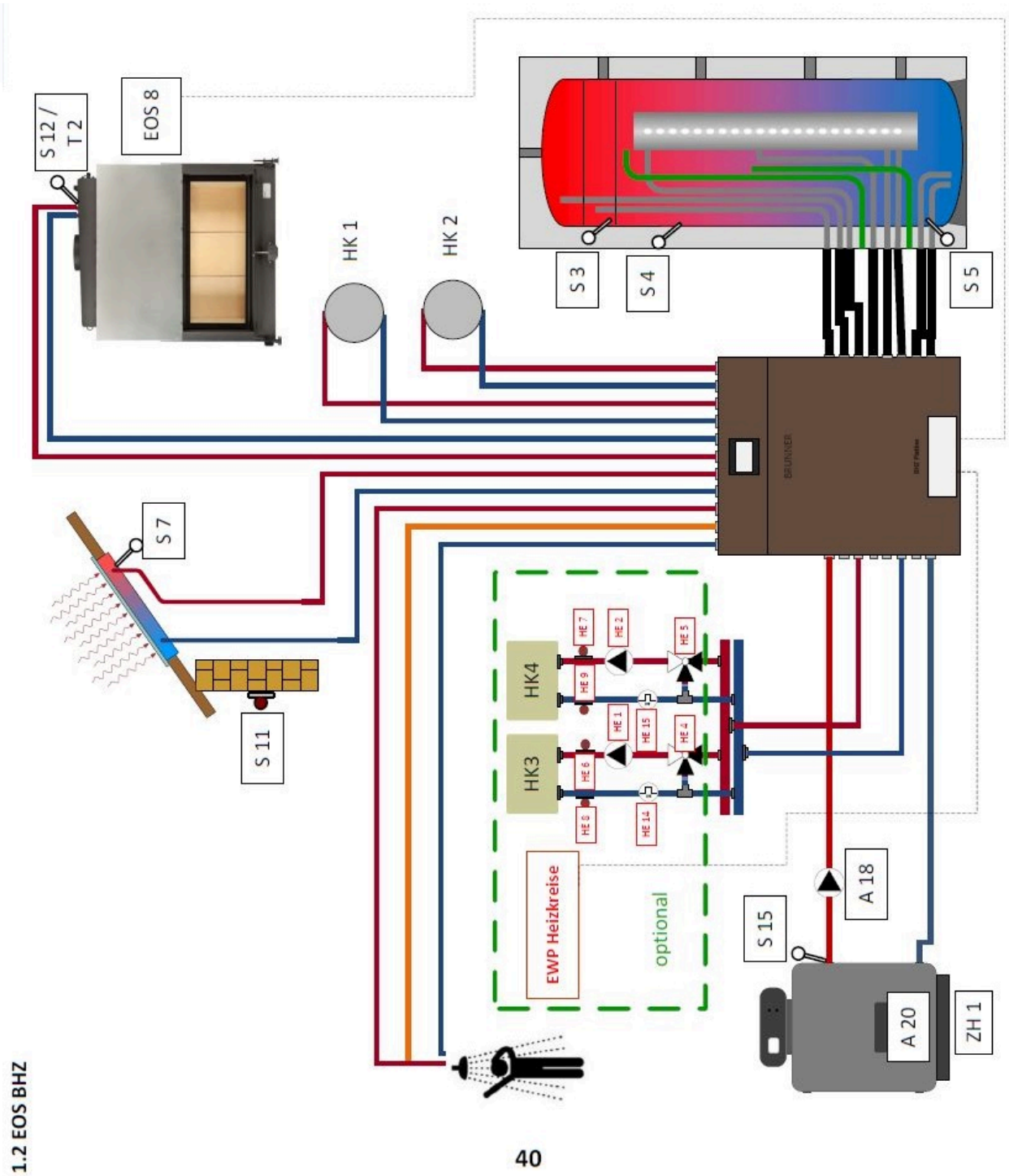
The heat consumers can be radiators, convectors, wall heating, underfloor heating or swimming pool heating.

The heating circuit is equipped with an outdoor temperature-controlled control system. In heating mode, the flow temperature for the controlled heating circuit is determined from the outside temperature and the set heating curve. The base point and the design point can be entered separately for each heating circuit. The user can choose individually from different heating systems for each heating circuit or make an individual setting.

The EWP heating circuit is the control in the event that additional heating circuits are installed. So if there are already 2 (usually existing) heating circuits, the extension board controls the 3rd or 4th heating circuit; however, this is also possible for a 5th or 6th etc. heating circuit. heating circuit.

There is the option of heating operation with outside temperature control and the option of heat dissipation.

When using the expansion board, the software version on the system must be Rel. 5.0 or higher.


S 12 / T 2
EOS 8
HK 1
HK 2
S 3
S 4
S 5
S 7
S 11
HK4
HK3
HE 7
HE 2
HE 5
HE 9
HE 1
HE 15
HE 4
HE 6
HE 8
HE 14
EWP Heizkreise
optional
S 15
A 18
A 20
ZH 1
1.2 EOS BHZ
40
Normen, Sicherheits-und örtliche Vorschriften beachten!

3.4 Special adjustable functions

Frost protection

The Extension board 'Heating circuits' (EWP HK) is equipped with heating circuit frost protection. This has priority over all selected settings. As soon as the specified outside temperature (frost protection) is reached, the inactive circulation pumps of the heating circuits are automatically switched on. If the circulation pumps are already active, this function is omitted.

Summer/winter changeover

If the outdoor temperature exceeds the **summer** switchover threshold, the heating circuit pumps are **de-activated**. An individual summer/winter switchover value can be set for the heating circuit. There is also the option of setting summer or winter permanently. If the outside temperature falls below the **summer off** switchover threshold by more than 1°C, winter mode is started automatically.

Standard programs for the heating circuits

The 3 standard programs can be used separately for each individual heating circuit. Three time intervals can be selected for each day of the week. You can easily enter the standard programs on the display, in the home view, without a PIN code and also name them individually. The switching times of a standard program can be changed or added to. Three further program levels are available for other individual program requests (New 1, 2 or 3).

Dry screed

If a heating circuit is equipped with underfloor heating, a special drying program can be set. As soon as the drying process is complete, the setting is automatically reset to “No”. The active drying program for the relevant heating circuit is shown on the display. The necessary parameters are preset at the factory, but can be changed.

Continuous operation

In this setting, the system automatically switches to day mode for an adjustable period of time (hours). The continuous operation function starts immediately and is automatically deactivated after the preset time period has elapsed. The day/night changeover takes place automatically.

Absence

With the absence program, the desired heating circuit or an existing external hot water cylinder can be operated in frost protection mode for an adjustable period of time (days) during absence. This means that the relevant heating circuit is switched off, but frost protection is active as it has the highest priority. The absence function starts immediately and is automatically deactivated after the preset period of time has elapsed. The system switches to automatic heating mode. The absence program can be interrupted/cancelled or resumed. An active vacation program is shown on the display. The vacation days or absence time are displayed and counted down.

Calibration offsets

Carry out a calibration to guarantee a match between the measured values recorded and the measured values output by the sensors. If there is a temperature deviation of the sensor, a change in degree Celsius increments is possible under Settings.

Corrosion protection

Corrosion protection of all pumps and mixers is very important to ensure a long service life for the entire heating system.

When corrosion protection is active, all pumps and mixers are monitored by the function modules for a short time. During corrosion protection, the mixers and pumps are briefly activated and realigned on the first Monday of each month at 1:01.

Select lowering mode

When connecting a heating circuit extension board, it is possible to set the system to reduced operation or night mode. This option is available for every heating circuit.

For this purpose, the setting **Cool-down protection** is provided with a presetting of the T outdoor limit value for the outdoor temperature. You can enter a winter/summer switchover for night, so to speak. Below the limit temperature, the flow temperature is lowered to night mode.

The **Standard** selection ensures that the flow temperature is lowered in night mode.

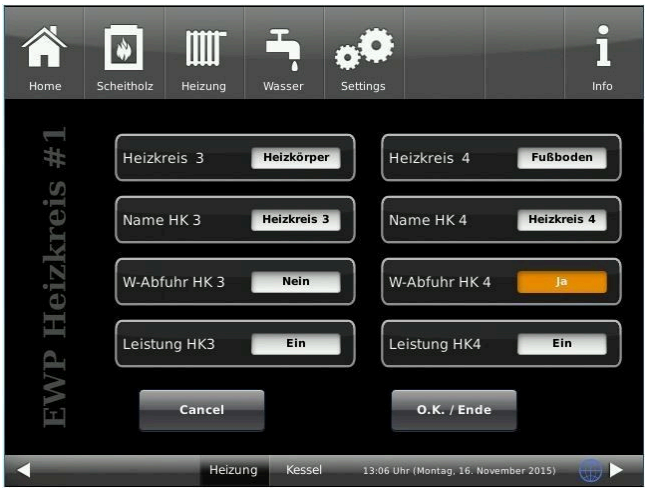
4 Configuration EWP HK

Before configuring the heating circuit extension board, the BRUNNER central heating unit BHZ or the basic extension board must be configured.

Example for the 3rd and 4th heating circuit; analogous for any other heating circuits

For the configuration level of the EWP heating circuits, follow the path:

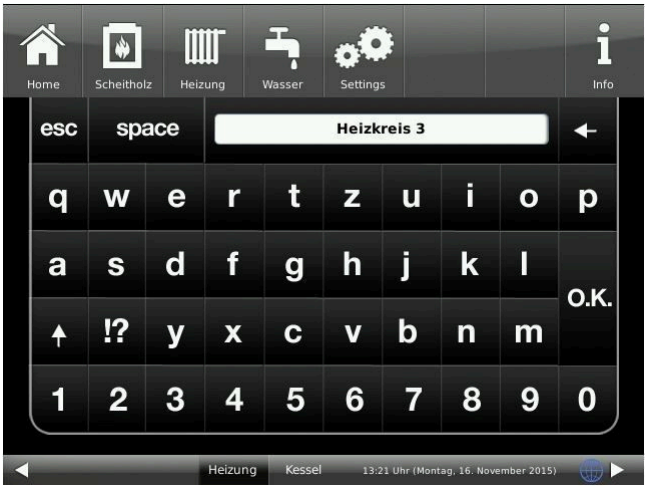
Settings + PIN entry / Configuration / EWP heating **circuit no. 1** (= **Settings** + PIN-Code / **Konfiguration** / **EWP Heizkreis Nr. 1**)



Heating circuit 3 / 4 (=Heizkreis 3 / 4)

= Selection depending on the installed heat output system: No;
Radiator;
Convector;
Wall (= wall heating);
Floor (= underfloor heating);
Constant (= constant flow temperature);
Swimming pool
Confirm the entry with **O.K. / End**

Name HK 3 / 4 = by clicking on the white button, it is possible to name the relevant heating circuit using the keyboard;



Heat removal HC 3 / 4 (= W-Abfuhr HK 3 / 4) - option for heat removal in the relevant heating circuit - with **Yes** / **No** selection; if the limit temperatures are exceeded in the buffer tank, an attempt is made to remove the heat through the enabled heating circuit within the permitted temperature range.

Power HC3 / 4 (= **Leistung HK3 / 4**) - Selection of power measurement for heating circuit 3: **Yes** / **No** - click in the dialog window. **No=** the sensor pairs for heating circuit a: E14 and E8. or for heating circuit b: E15 and E9, not evaluated.

5 Operation basics

The images shown in the installation and operating instructions (including display views) do not claim to be an exact representation of the displays on your system. These depend on the installed system components, their measurement functions, control variants and set parameters. In some cases, these system parts are not part of the standard versions, but are provided as optional accessories.

5.1 Licenses

For the visualization of our user interface we use an open source operating system, which is subject to different license models.

You can see the licenses used in the software under the menu:
„**Settings**“ → “**Display**“ → “**Licenses/Contact**“

Written Offer
(open source software)

Our product contains software and sourcecode whose rightholders license it under the terms of the GNU General Public License, version 2 (GPLv2), version 3 (GPLv3), the GNU Lesser General Public License, version 2.1 (LGPLv2.1), version 3 (LGPLv3) and other open source software licenses.

If you send us a request for oversending the licensed source code of the software, please use the following address:

Ulrich Brunner GmbH
Zellhuber Ring 17-18
84307 Eggenfelden
info@brunner.de

Upon request, we will send you a CD-ROM with the provided source codes. You have to pay the costs for material, packaging and delivery.

The offer is valid for at least three years from the date of delivery of the product on which the software is installed, and as long as we can offer spare parts and customer service for this product, or from the time of downloading the software from our homepage.
Please include the type of product for which you want to receive the source code in your request.

5.2 Data protection declaration of Ulrich Brunner GmbH

Notes on protecting your personal data

Ulrich Brunner GmbH always endeavors to save and process only the personal data that are necessary and indispensable or that are required to be stored and processed by law.

We strictly adhere to the requirements of the General Data Protection Regulation (GDPR) and the Federal Data Protection Act (BDSG and BDSG new).

We do not pass on personal data to third parties; unless we are required to do so by law or by court order.

Persons under the age of 18 should only transfer personal data to us with the consent of their legal guardians. If there is reason for a complaint, it can be addressed to the responsible state authority.

The required contact details can be found on the website: https://www.lda.bayern.de. If other sources of information or services (websites, apps, etc.) from Ulrich Brunner GmbH are used, the data protection declarations listed also apply.

Purpose of data processing

We only collect, store and process personal data for the express or implicitly agreed purpose. These are e.g. Address data for processing an information request, or for making offers, invoicing etc. or bank data for processing payment transactions. Without an independent declaration of consent, this data is not e.g. used to send as newsletter or similar purpose.

Saving and deleting

We only store personal data for as long as is necessary to fulfill the agreed purpose or as required by law. If the agreed purpose is fulfilled or there is no longer a legal basis for storage, this data will be deleted as far as possible. If deletion is not technically possible, the data will be marked in such a way that further processing is impossible.

Deletion requests, requests for information, requests for changes or revocation of a declaration of consent can be directed at any time to the data protection officer of Ulrich Brunner GmbH.

Responsible for data processing

Ulrich Brunner GmbH
Zellhuber Ring 17-18
D-84307Eggenfelden
E-Mail: info@brunner.de
Tel.: 08721/771-0

You can contact the data protection officer under: datenschutzbeauftragter@brunner.de.

5.3 Display views

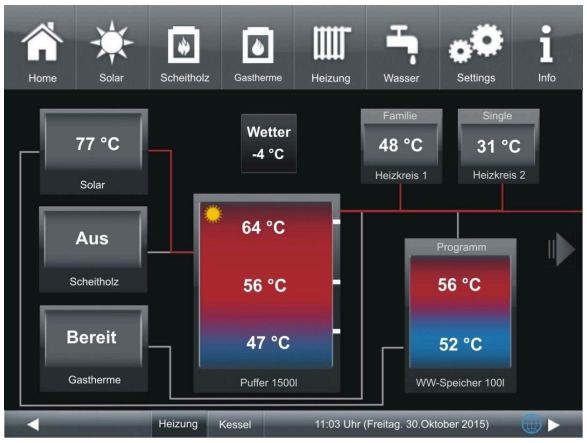


Illustration 1: Home view with EWP heating circuit no. 1;

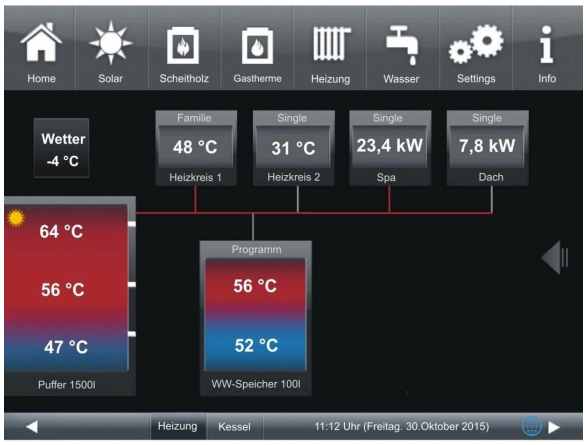


Illustration 2: Home view with EWP heating circuit no. 1, extended home view (heating circuits 3 and 4)

If more than one EWP HK is connected (here with EWP HK no. 2 with additional 2 heating circuits), these are displayed in the Home view and are visible in the “extended view”.

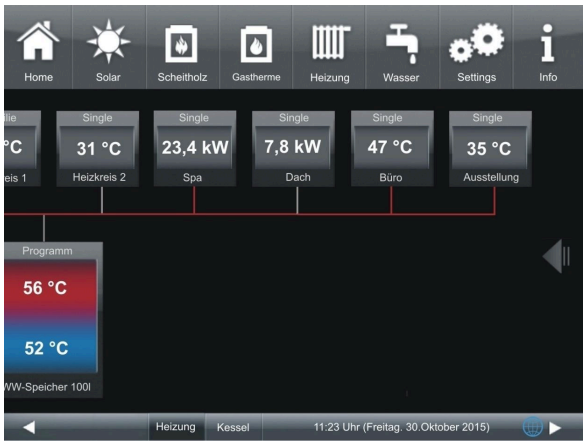
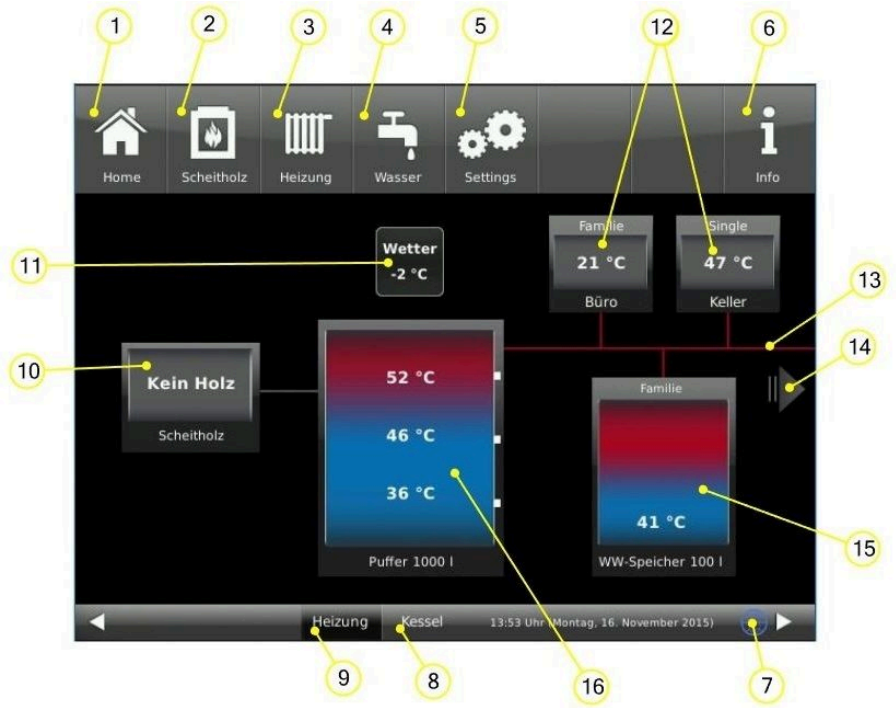
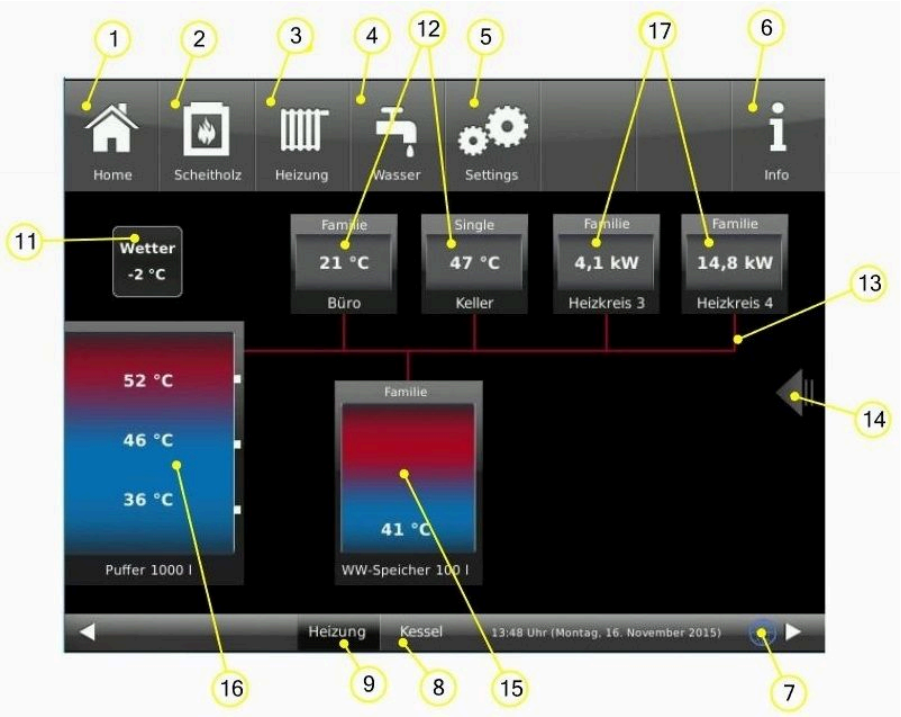


Illustration 3: Home view EWP heating circuits no. 1, EWP heating circuits no. 2 - extended view, heating circuits 3 and 4 plus 5 and 6

5.4 Home view overview





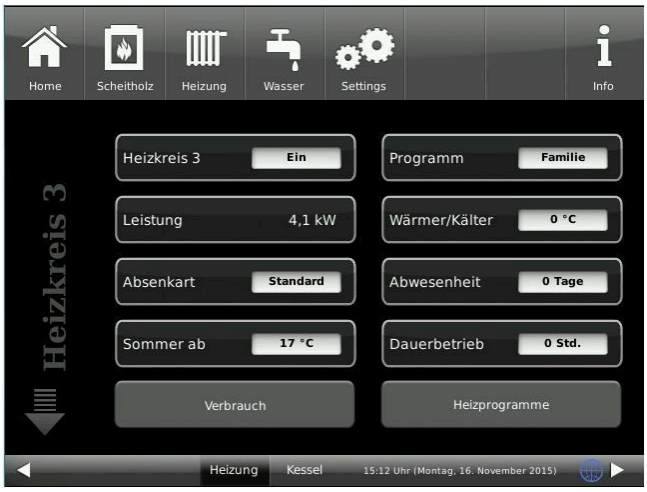
Menu bar buttons:	
1	Home page; Home view; button to start all applications;
2	Log boiler - heat generator; Button for the customer parameters of the log boiler
3	Heating - Heat consumer; Button for the customer parameters of the heating, incl. programs of the heating circuits

4	Hot water - heat consumer; Button for the customer parameters of the hot water supply; incl. programs for hot water
5	Settings; Access is via a PIN (different for the operator or specialist); Enables access to various parameter levels for configuration and parameterization;
6	Info; If error messages are present, the Info button is highlighted in orange.
7	Network and myBrunner status: no symbol = no network; gray globe = in network, but offline with mybrunner; blue globe = online with mybrunner
8	Button for the home view of the BRUNNER boiler, the entire boiler control system
9	Button for the home view of the heating system; the entire control of the heat consumers and heat generators;
Graphics of the Home view :	
10	Log boiler
11	Outdoor temperature display
12	Heating circuits: Name HK + program used + current temperature
13	Supply lines; the coloring shows their operating status (red=active; grey=inactive)
14	Arrow for overall view of the system (for more than 2 heating circuits or installed EWP-HK)
15	Hot water tank + temperature display
16	System cylinder; buffer + temperature display
17	Heating circuits of the EWP-HK: Name HK + program used + current temperature or output (alternating displays)

5.5 Displays and setting options under Home

5.5.1 Heating circuit 3 and 4

To set heating circuit 3 or 4, click on the graphic for heating circuit 3 or 4
or
the **Heating** button from the menu bar and then the **Heating circuit 3** or **4** button
:



If several heating circuit extension boards are connected, the existing buttons are displayed and the settings can be made in the same way as for heating circuit 3.

Short name	M.E.	Explanations	Default
Page 1			
Heating circuit 1		Button for **switching**the respective heating circuits **on** or **off**;	ON
Output	kW	Display of the power measurement	
Setback mode		If the setback type described below is selected, the heating circuits run through the relevant setback mode (gray fields in the heating program)	Standard

Off	= no setback mode desired
Standard	The flow temperature is lowered in night mode (grey fields in the heating program). HK pumps continue to run. Parameter: Setback (5 K)
Cooling protection	The heating circuit pump remains switched off until the outdoor temperature has reached the outdoor **T** threshold value. If the temperature falls below the **outdoor** T threshold value, the pump switches on again and the flow temperature is lowered. This means that the **standard** setback mode comes into effect.
Frost protection	In set-back mode (grey fields in the heating program), the heating circuit is always switched off. The heating circuit pumps are deactivated. If the temperature falls below the “**Frost protection down** ” parameter (factory setting 4°C), the heating circuit switches to frost protection mode.

<table>
<tr><td>Summer from</td><td>°C</td><td>Setting option for the outdoor temperature threshold for switching from heating to summer mode. Setting range with sliding bar (min-max): 1-40.
If the outdoor temperature exceeds the summer from switchover threshold, the respective heating circuit pumps are deactivated. An individual summer/winter switchover value can be set for each heating circuit.</td><td>17</td></tr>
<tr><td>Program</td><td></td><td>Definition of the heating program, according to the stored operating hours for the respective programs. There are 3 factory programs (Family, Single, Seniors) and three individually assignable heating programs (New1, New2, New3). Tap to enter the selection:<table><tr><td>Family</td><td>New 1</td></tr><tr><td>Single</td><td>New 2</td></tr><tr><td>Seniors</td><td>New 3</td></tr></table>Details: Chapter “Selecting or creating heating programs”</td><td>Family</td></tr>
<tr><td>Warmer/Colder</td><td>°C</td><td>Additional increase or reduction of the existing flow temperature; with slide bar: Setting range from: (min/max): (-10) to 10;</td><td>0</td></tr>
<tr><td>Absence time</td><td>Days</td><td colspan="2">Enter the days of absence; setting range with sliding bar (min/max/factor): 0-42/1. Only frost protection is retained. The absence function starts immediately and is automatically deactivated after the preset period has elapsed; the system switches to automatic heating mode.
The corresponding heating circuit is displayed as Off in the Home view. The remaining active absence time is displayed in the Absence button with the remaining days (countdown). Details: Chapter “Absence time”</td></tr>
<tr><td>Continuous operation</td><td>Std</td><td>Setting of the hours in which the heating circuit remains permanently in operation. Setting range with sliding bar (min/max): 0-48. The remaining period for continuous operation is displayed in the menu for the relevant heating circuit (countdown). After the set time has elapsed, the stored time program is automatically used.</td><td>17</td></tr>
<tr><td>Consumption*</td><td>kWh</td><td colspan="2">Display of the consumption values (kWh) for the selected heating circuit at specific time intervals:<table><tr><td>Today</td><td>Current year</td></tr><tr><td>Yesterday</td><td>Last year</td></tr><tr><td>Last 5 days</td><td>2 years ago</td></tr><tr><td>Last 4 weeks</td><td></td></tr><tr><td>Last 6 months</td><td></td></tr></table></td></tr>
<tr><td>Heating programs</td><td></td><td colspan="2">By clicking on the program, further programs can be called up or individually created (see chapter “Selecting or creating new heating programs”)</td></tr>
<tr><td colspan="4">Page 2:</td></tr>
<tr><td>Heating circuit*</td><td></td><td colspan="2">The name of the heating circuit that has been configured in the heating system: selectable: Radiator, Convector, Wall heating, Floor, Constant, Heat dissipation, No;</td></tr>
<tr><td>HK1 Pump*</td><td></td><td>The status of the corresponding heating pump (here for heating circuit 1): Off or On</td><td>On</td></tr>
<tr><td>Display mode*</td><td>Sec.</td><td>Time to switch between the power and temperature display in the heating circuit field; setting range with sliding bar (min-max/factor): 1-60/1;</td><td>30</td></tr>
<tr><td colspan="3">*are only available when an EWP-HK is connected</td><td></td></tr>
</table>

5.5.2 Select or create heating programs

		Daytime 1		Daytime 2		Daytime 3	
Program name	Day	On	Off	On	Off	On	Off
Family	Mo-Th	5:30	22:00				
	Fr	5:30	23:00				
	Sa	6:30	23:00				
	Su	7:00	22:00				
Single	Mo-Th	6:00	8:00				
	Fr	6:00	8:00				
	Sa	7:00	23:30				
	Su	8:00	22:30				
Seniors	Mo-Su	5:30	23:00				
New 1							
New 2							
New 3							
off	The selected heating circuit is deactivated! Frost protection is active.						

Individual program settings:
For each heating circuit and every hot water program it is possible to enter your desired times and program names.

Define heating program

On the display you can enter your own programs for existing heating circuits.

1. Open the **Heating circuit** menu:
either by clicking the graphic element of the specific heating circuit from the Home view
or by clicking the “Heating” symbol on the upper menu bar, and then the button for the specific heating circuit;

Page 1 for the heating circuit will appear:

Illustration 4: Displayed view on example for heating circuit 1

2. Tap the field **Heating programs**;

A window with days of week will apear:

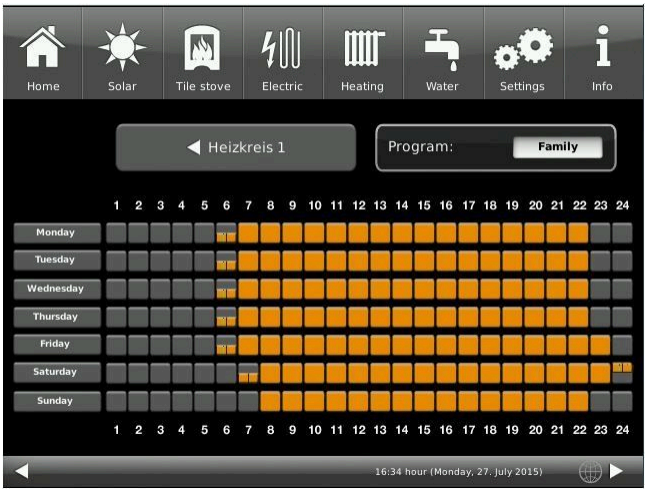


Illustration 5: Displayed view on example for heating circuit 1

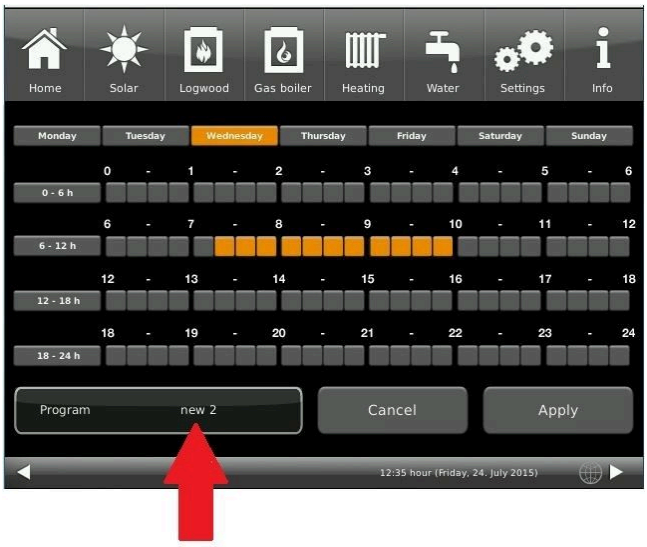
3. Tap the box for a desired day of week;

4. Another window will appear for the selected day of week. The selected day of week is highlighted in orange in the line above.

By selecting the days of week you can change the days individually. It is not possible to select multiple days of week at once.

By tapping the periods 0-6, 6-12, 12-18 and 18-24 it is possible to highlight the whole line in orange (= heating is active) or grey (= heating not active). By tapping the individual checkboxes you can highlight them in orange or grey.

The factory programs cannot be overwritten.

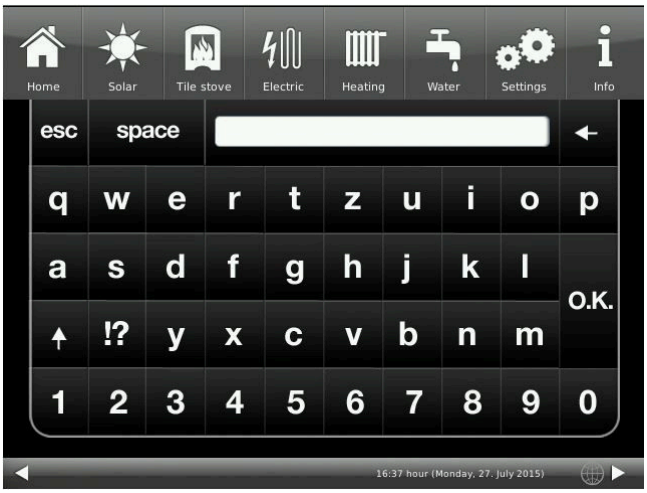


If you want to change the name of a defined program, tap the **Program** button.
A new window with keypad will appear:

Using the displayed keypad, enter a new name for the program.

To confirm and apply the new program, tap on **OK**.

→ The new program for heating circuit 1 was saved under a new name.



5.5.3 Absence periods

Absence setting for Heating

Illustration 6: Display for absence period setting

Entering of absence period:
If you are not at home for a longer time, i.e. you do not need heating or hot water supply, you can select the settings for this period to save energy.
In this period, the selected heating circuits or hot water storage will be operated in frost protection mode only. You can save some energy and protect your heating system from freezing at the same time.

The absence program can be interrupted or canceled, or activated again and continued.

Holiday program is shown in display. Holidays are indicated and counted down at the same time.
After the absence period has passed, the system will return automatically to your program.

1. For this setting, please select the following: softkeys Heating / **Heating circuit 1** (or the corresponding circuit) / **Absence**

2. Tap the field **Absencet**, and enter the number of days, when you are not at home.

→ The absence period is stored and it is activated and later deactivated at given times.

Absence setting for Hot water

If you have a storage tank for hot water supply installed, it is possible to set the absence period for this function only.
For this enter the path: in Home view, click on the Boiler softkey or the **Water**-symbol from the upper menu bar / softkey**Absence**. A sliding bar will show up, which is used to select the number of absence days.
In consequence, during the absence period, the upper line of the hot water storage field shows the status **Off**. The yet remaining absence period is shown in menu **Water** on the **Absence** softkey (countdown).

5.5.4 Screed drying

If a new floor heating was installed, a drying program can be defined and activated. Please select:
Settings / **Heating circuit 1** (or a specified circuit) / **Screed drying** /

Short name	Unit	Explanations	Setting range	Default
Drying	%	Start or end of drying program;	0-100	Off
T Start drying	°C	Start temperature for drying program;	10-50	20
T increase dry	°C	Temperature increase during drying program;	1-50	2
t increase dry	Days	Time for temperature increase;	0-10	1
Tmax Drying	°C	Target temperature for drying program;	20-70	40
t Hold drying	Days	Holding time for target temperature in drying program;	0-21	3
T lowering dry	°C	Temperature lowering during drying program;	1-50	2
t lowering dry	Days	Time for temperature decrease	0-10	1
Status	%	Percentage rate of drying	0-100	

When the drying program is started, in the Home view for the relevant heating circuit appears **Screed drying**.

5.5.5 Selection of lowering mode

Selection of lowering mode - Reduced mode/Night lowering

For each heating circuit you can choose individual lowering types for reduced mode or night lowering mode:

Cooldown protection (=**Auskühlschutz**)	Selection of 'T_outdoor' limit for outdoor temperature, where the mode will change between “Disabled” and “Reduced”. This is some kind of Winter/Summer mode switching during night! If this limit is exceeded, the heating circuit will be disabled. Below this limit, the flow temperature is reduced to Night mode level.
Standard	Flow temperature is reduced for Night mode operation. Heating circuit pumps are still running. Parameter: Lowering
Frost protection (= **Frostschutz**)	The heating circuit is generally disabled at night. Heating circuit pumps are deactivated (Pump 3 (A9) or 4 (A12) off).
Off (= Aus)	

Lowering type is used to determine the behavior of heating circuits during defined “inactive” periods. *Standard* lowering type is used to decrease the normal supply temperature of heating circuits during defined “inactive” periods by 'T_lowering' parameter value.

Frost protection means that heating circuit pumps are switched off during “inactive” periods. Right after a temperature of 1°C is reached, the pumps are activated again. Heating circuit flow temperature is now controlled without individual heating characteristics. When outdoor temperature exceeds 2°C, the Heating Center turns back into Frost protection mode.

Cooldown protection principle is the same as for Frost protection; the only difference is that the threshold temperature value is 5°C and the heating circuit flow temperatures are controlled according to defined heating curves.

Parameter	Value (min, max, default)	Description
Lowering mode (= Absenkart)	Cooldown protection, Frost protection, Standard	Determines the type of flow temperature reduction.
Heating system (= Heizsystem)		Determines the choice of heating curve.
T_lowering (= T_Absenkung)	0°C, 100°C, 5°C	FL temperature is reduced by this value during “inactive” periods.
T_outdoor (= T_Aussenhalt)	-20°C, 50°C, 5°C	Threshold value to change between “reduced” mode and “disabled” mode.

6 Information and error messages

Based on the highest industry standards, all BRUNNER expansion boards have a detailed safety concept. The controller not only regulates and monitors the current operating status, but also independently and continuously checks the function of all connected sensors, motors and mixers.

The safety concept

- Continuous electronic monitoring of all connected sensors, such as boiler and flue gas sensors, as well as monitoring of connected electrical components;
- Automatic and permanent archiving of sensor values and error messages.
- Visual display of error messages.

Display of an information or error message

If a message or error message occurs, a corresponding message window appears on each existing operating display within the BRUNNER network environment, as well as a short signal tone.

Illustration 7: Note/error message

To confirm the message, proceed as follows:

- Tap **O.K**. to confirm

→ The message is deleted from the operating display and, in the event of an error message, permanently saved in the history.

Display error messages

If there are active error messages, the **Info** button is highlighted in orange.

To display error messages, proceed as follows:

- tap **Info** in the top menu bar of the Home view

→ Error messages are displayed.

Error messages can only be acknowledged in the top menu bar of the Home view in the Info submenu.

6.1 Acknowledging error messages

To acknowledge an **error message**, proceed as follows:
1. tap the **Info** button;
2. in the lower half of the display, press **Reset**

→ The error message has been acknowledged.

If the error is still present, the error message appears again.

Error messages can only be acknowledged in the top menu bar of the Home view in the Info submenu.

6.2 List of error codes

The following is a list of error codes that can appear at Extension board 'Heating circuits' (EWP HK) and are shown on the display:

Error text	Error text Description	Note to the operator
Sensor defective H1-E06 (= Sensor defekt H1-E06)	Sensor H 1 -E06 defective or not connected. The graphic for heating circuit 3 reads: **Error (= Fehler)**. Pump **at** H1-E01 is off; Mixer **on (=an)**, H1-E04 closes.	Contact a specialist company.
Sensor H1-E07 defective (= Sensor defekt H1-E07)	Sensor H1-E07 is defective or not connected. The graphic for heating circuit 4 shows: **Error (= Fehler)**. Pump **on (=an)**, H1-E02 is off; Mixer **on (=an),** H1-E05 closes.	Contact a specialist company.
Sensor H2-E06 defective (= Sensor defekt H2-E06)	Sensor H2-E06 is defective or not connected. The graphic for heating circuit 5 shows: **Error (= Fehler)**. Pump **on (=an)** H2-E01 is off; Mixer **on (=an),** H2-E04 closes.	Contact a specialist company.
Sensor H2-E07 defective (= Sensor defekt H2-E07)	Sensor H2-E07 is defective or not connected. **Error (= Fehler)** is displayed in the graphic for heating circuit 6. Pump **on (=an)** H2-E02 is off; Mixer **on (=an),** H2-E05 closes.	Contact a specialist company.
Sensor H3-E06 defective (= Sensor defekt H3-E06)	Sensor H3-E06 is defective or not connected. The graphic for heating circuit 7 shows: **Error (= Fehler)**. Pump **on (=an)** H3-E01 is off; Mixer **on (=an),** H3-E04 closes.	Contact a specialist company.
Sensor H3-E07 defective (= Sensor defekt H3-E07)	Sensor H3-E07 is defective or not connected. The graphic for heating circuit 8 shows: **Error (= Fehler)**. Pump **on (=an)** H3-E02 is off; Mixer **on (=an)**, H3-E05 closes.	Contact a specialist company.

6.3 Troubleshooting

Switch emergency program

In the event of faults during the heating period, the query appears on the display:

Switch emergency program (= Notprogramm schalten) with the selection options: **Yes/No (= Ja/Nein)**

In this case, contact a specialist immediately.
The radiators should also heat up in winter if sensors are faulty. However, there is a protective function for the underfloor heating.
The system display is in the heating circuit **emergency program (= Notprogramm)**.

The **reset** for the error can be ended here or under **Info**.

7 Technical data

Surface-mounted box dimensions (H x W x D)	cm	24 x 29 x 12
Supply voltage	V / Hz	230VAC +/-10 % 50Hz
Outputs Voltage	V / Hz	AC 230V / 50 Hz
Outputs Power max.	W	100
Relay outputs Power max.	W	500
Temperature sensor inputs	Type	Pt1000
Ambient temperature	°C	0 - 50
Power consumption	W	6,5
Fine-wire fuse power supply unit	mA (T)	250
Microfuse for outputs	A (T)	6,3
Protection class	IP	20
Labeling		CE MARKING
Temperature controller class EWP basic and EWP heating circuits		II
Energy efficiency contribution EWP Basis and EWP heating circuits		2%
Stand-by	W	4

8 Declaration of conformity

CE

EG-Konformitätserklärung

Die:

Ulrich Brunner GmbH
Zellhuber Ring 17-18
D-84307 Eggenfelden

erklärt hiermit, dass nachfolgend aufgeführtes Gerät zum Zeitpunkt der Auslieferung, in der gelieferten Ausführung:

Erweiterungsplatine

den Anforderungen der Normen:

Emission Standard, EN61000-6-3:2007
Residential, commercial and light industry Environments

Immunity Standard EN61000-6-2:2005 + Berichtigung1:2011
Immunity for industrial environments

und der Richtlinie:

2004/108/EG

entsprechen.

Diese EG-Konformitätserklärung verliert ihre Gültigkeit, wenn das Produkt ohne Zustimmung umgebaut oder verändert wird.

Eggenfelden, den 20.8.11

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