

Instructions for use

Extension board
EWP Power

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BRUNNER[®]
made in germany.

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1 About this document

1.1 Target group of the instructions

These instructions for Extension board 'Performance' (EWP L) 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 'Performance' (EWP L) 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 'Performance' (EWP L) are kept by the operator of Extension board 'Performance' (EWP L) 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 'Performance' (EWP L):

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 'Performance' (EWP L) 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 'Performance' (EWP L) 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 'Performance' (EWP L).
- 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 'Performance' (EWP L).
- 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 power extension board is used to measure the power of heat generators.

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 'Performance' (EWP L) from this documentation.

3.2 Conformity



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

3.3 Functional description

The power expansion board measures the flowing energy.

Monitoring the sensors is essential for safe operation of the system. It is also helpful for servicing to obtain precise data on the operating status.

The following sensors and flow rates are used for heat measurement: Flow and return sensors and volume flow Huba Control. These sensors are used for every existing heat generator.

The EWP output can be used to determine the yields for two heat generators;

- auxiliary heater 1 and auxiliary heater 2 of the EWP base
- tiled stove (using EOS) and auxiliary heater 1 (EWP base).

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

4 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.

4.1 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.

4.2 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.lida.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
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E-Mail: info@brunner.de
Tel.: 08721/771-0

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

4.3 Display views EWP output

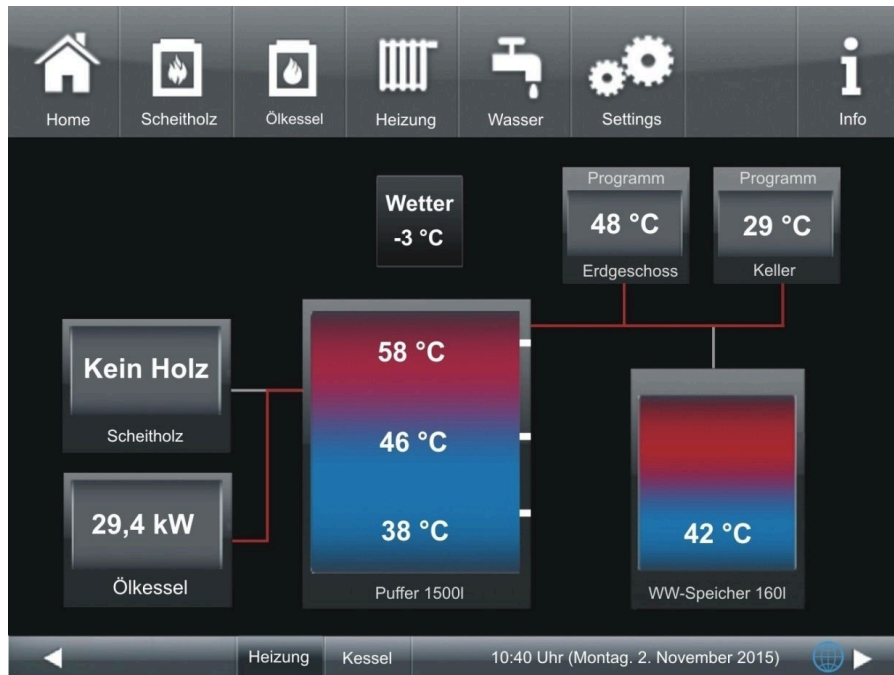


Illustration 1: EWP output with Brunner natural power boiler. If auxiliary heating 1 (oil boiler) is active, the output is displayed (if it is greater than zero).

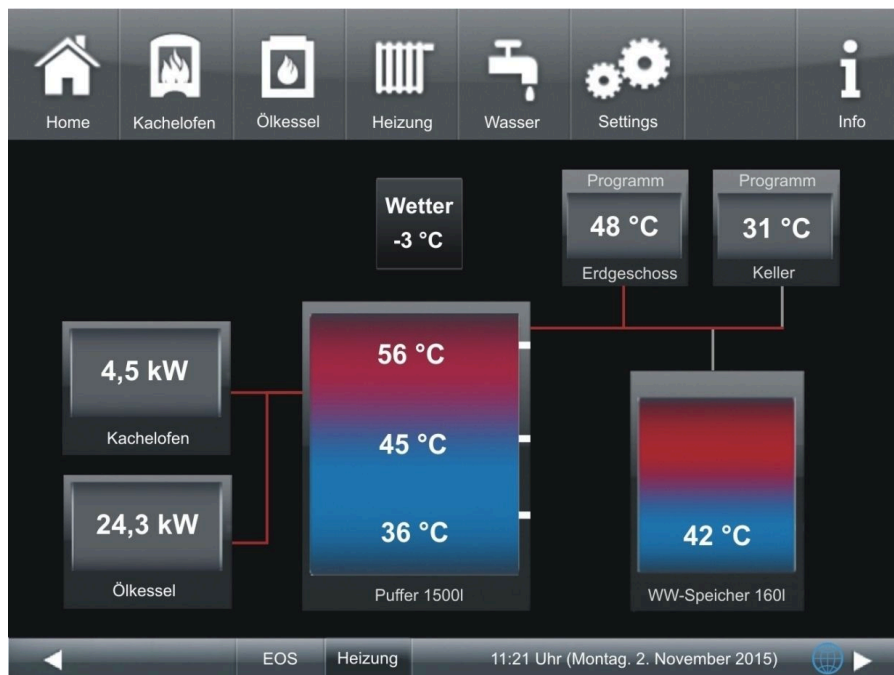
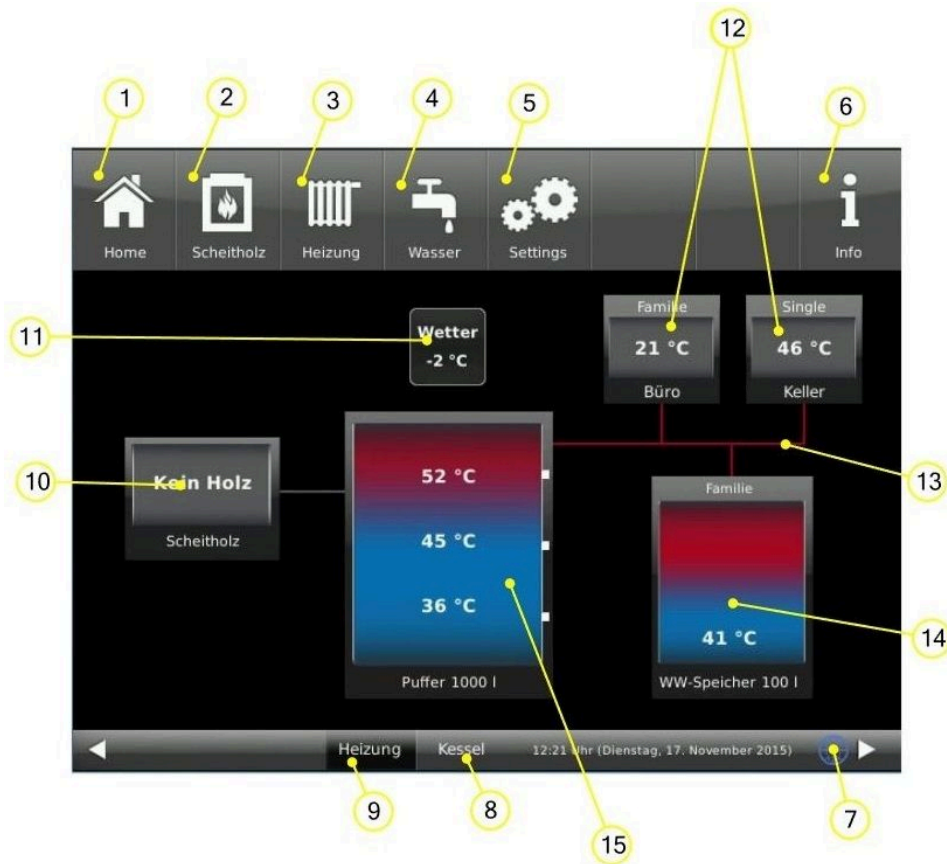


Illustration 2: EWP output with EOS. If auxiliary heating 1 (here oil boiler) and tiled stove boiler are active, the output is displayed if it is greater than zero.

4.4 Home view overview



Buttons in the menu bar:	
1	Start page; Home view; Button to the starting point of all applications
2	Log boiler - heat generator Button for the customer parameters of the log boiler
3	Heating - Heat consumer Button for the existing heating circuits, their heating programs and customer parameters
4	Hot water - heat consumer Button for the hot water programs and customer parameters
5	Settings; Access is via a PIN (different for the system operator or specialists); 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 the network, but offline with my-brunner; blue globe = online with mybrunner
8	Button for the home view of the BRUNNER boiler, the entire boiler control system
9	Home view of the heating system; complete control of the heat generators and heat consumers
Graphics of the home view:	
10	Log boiler with current operating status, button for customer parameters
11	Outdoor temperature display

12	Heating circuit 1 or 2 with display of the program used (program name) + current temperature
13	Supply lines;
14	Display of the temperature of the hot water tank (bottom)

4.5 Displays and setting options under Home

4.5.1 Auxiliary heater 1 with EWP output

Depending on the additional heaters installed and configured, you can view the data for the relevant additional heaters:

Short text	ME / selection	Explanation
<i>Example: Gas boiler</i>		
Gas boiler (=Gastherme)	On / Off	Setting option of the system: On/Off
Flow* (=Vorlauf*)	°C Display	Flow temperature
Output* (=Leistung*)	kW Display	Current output produced by the gas boiler
Flue gas test (=Abgastest)	On / Off	Whether the flue gas test is activated or not
Activated for (= Aktiviert für:)	Full load / DHW/heating / frost protection / hot water / heating or summer / winter operation	
Program (= Programm)	Selection of the program set in the time periods for the operational readiness of the existing additional heating "GAS" for automatic reheating	
Status	Display	Current operating status of the gas system
Periods	Schedule	Option to set the periods during which the "Gas" auxiliary heating should be activated; see the "Defining periods" section
Yields* (= Zeiträume)	Graphic display of the yield values of the auxiliary heating in a selectable period	
<i>Example: Electricity</i>		
Electricity (= Strom)	On / Off	Setting option for the system: On/Off
Flow* (= Vorlauf*)	°C Display	Flow temperature
Output* (= Leistung*)	kW Display	Current output generated by the system on an electricity basis
Activated for: (= Aktiviert für:)	Full charge / DHW/heating / frost protection / hot water / heating or summer / winter mode	
Program (= Programm)	Selection of the program set in the time periods for the operational readiness of the existing auxiliary heating "Electricity" for automatic reheating	
Status	Display	Current operating status of the system based on electricity
Periods (= Zeiträume)	Schedule	Option to set the periods during which the "Electricity" auxiliary heating is to be activated; see section "Setting periods"
Yields* (= Erträge*)	Graphic display of the yield values of the auxiliary heating in a selectable period	
* Selection options specific to the EWP output		

Some of the displays and buttons depend on the type of auxiliary heating.

4.5.2 Auxiliary heating 1 and auxiliary heating 2 with EWP output



Illustration 3: Auxiliary heating 1 (=ZH) menu (1st page) with EWP output for gas boiler (ZH 1) with display of output and flow temperature



Illustration 4: Auxiliary heating 2 (=ZH) menu (2nd page) with EWP output for electric heating (ZH 2)

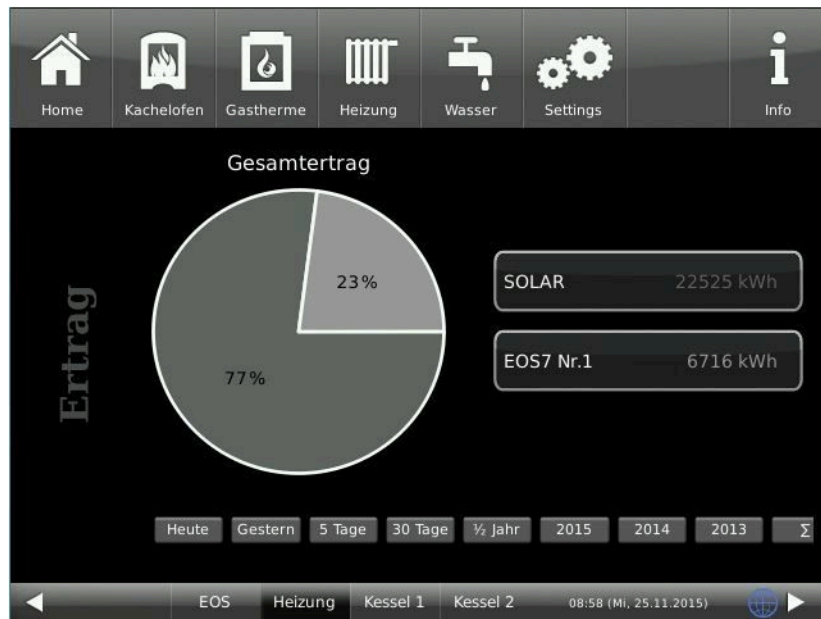
The **Flue gas test (= Abgastest)** button is not available if the auxiliary heating: *electricity* or *heat pump* is set.

Time periods

see chapter “Set time periods”

4.5.3 Yields - Auxiliary heating

The yields of the installed auxiliary heating in a certain period of time (buttons) are displayed in a pie chart:



today (= heute)	xxx kW/h	Current year	xxx kW/h
yesterday (= gestern)	xxx kW/h	year before last (current year -1)	xxx kW/h
last 5 days (= letzten 5 Tage)	xxx kW/h	year (current year -2)	xxx kW/h
last 4 weeks (= letzten 4 Wochen)	xxx kW/h	Year (current year -3)	xxx kW/h
last 6 months (= letzten 6 Monate)	xxx kW/h	Year (current year -4)	xxx kW/h
Σ	Insumed values		

4.5.4 Defining periods

To define the availability of heat sources (boiler types and additional heatings), you can use the softkey **Periods**. You can use it to select the time program for automatic reheating.

After clicking the **Periods** softkey you have the possibility to select a factory defined program or to create a program on your own.

Program name	Hours of automatic reheating activity:
always active (= immer aktiv)	active at all times
Day (=Tag)	from 7am to 10pm
Night (=Nacht)	from 0am to 6am and from 11pm to 0am
New 1 (=Neu 1) New 2 (=Neu 2) New 3 (=Neu 3)	These slots are available for your own program settings. The entered programs can be renamed. These programs can be overwritten.

To enter a program, please follow the path for the given heat generator (see relevant chapter).

To create a new individual program



Illustration 5: Periods Pop-up

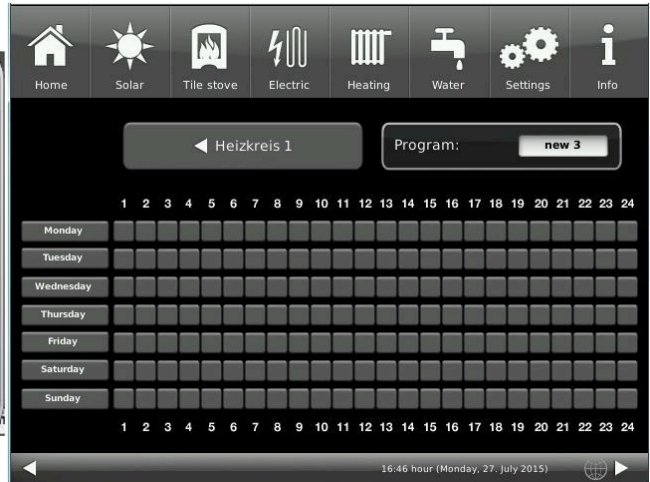


Illustration 6: Periods setup page

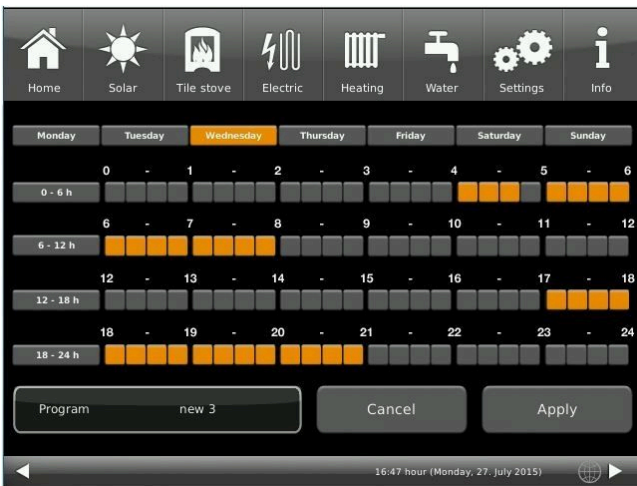


Illustration 7: Hourly schedule



Illustration 8: Keyboard

Tap to select the periods. Tap the softkey **Program** and a pop-up will show up. Tap **New 1** (=Neu 1) and the setup page appears. By clicking the days of week, you can view the schedule for the particular day. By clicking the periods 0-6, 6-12, 12-18 and 18-24 you can highlight the whole section, but there is also an option to mark only individual squares.



NOTES

Orange square = active, automatic time; gray square = inactive time.

It is not possible to select more than one day of week at a time.

Factory-defined programs cannot be overwritten. The new entered programs can be overwritten.

To rename a new program, click on the setup page on Program in the lower left corner and a keyboard will show up to enter the desired name for the new program.

5 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.

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.



Illustration 9: Note/error message

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.

5.1 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.

5.2 List of error codes

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

Error text	Error text Description	Note to the operator
Sensor defective L-E06 (= Sensor defekt L-E06)	Flow sensor 1 -E06 is defective or not connected. The heat quantity measurement is suspended as long as the error is active (=0)!	Contact a specialist company
Sensor defective L-E07 (= Sensor defekt L-E07)	Return sensor 1 - E07 is defective or not connected. The heat quantity measurement is suspended as long as the error is active (=0)!	Contact a specialist
Sensor defective L-E08 (= Sensor defekt L-E08)	Flow sensor 2 - E08 defective or not connected The heat quantity measurement is suspended as long as the error is active (=0)!	Contact a specialist company
Sensor defective L-E09 (= Sensor defekt L-E09)	Return flow sensor 2 E09 is defective or not connected. The heat quantity measurement is suspended as long as the error is active (=0)!	Contact a specialist company

5.3 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)**

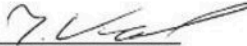
In this case, contact a specialist immediately.

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**.

6 Declaration of conformity

	
<h3>EG-Konformitätserklärung</h3>	
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 <u>20.8.17</u>	 Ulrich Brunner GmbH Dr.-Ing. Jürgen Vorwerk

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
Stand-by	W	4

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