



Bangert-Software

Strom & Heizen

Haus-W · Windows

Manual · English

Strom & Heizen is the Haus product family from Bangert-Software. Overview is directly accessible. Frequent tasks come first; master data and settings follow below.

The interface, dialogs and help are available in eight app languages. German voice guidance is enabled separately.

Device, speech service, printer and shared Wi-Fi tests still require separate verification.

<https://be-edvsysteme.de>

Find the right area quickly

Strom & Heizen is the Haus product family from Bangert-Software. Overview is directly accessible. Frequent tasks come first; master data and settings follow below.

Overview

Operation

Record	Readings · PV months · Oil & tank
Analysis & printing	Analysis
Data & backup	Data & backup · Import and export
Connections	Transfer
Help & information	Help & history · Coat of arms information

Master data and settings

Master data	Meters & system
View, language & input	Settings
Updates & maintenance	Program updates
Licence & installation	Licence and installation

Hidden menu items remain accessible under More functions. Hiding does not delete meters, measurements or devices. Show them again under Master data and settings → View, language & input → Settings.

Coat of arms information contains details about the family crest and its permitted use. The crest and the Bangert-Software name identify the common program family.

01. Start Windows and begin safely

Your home logbook on the PC: photovoltaics, electricity, water, heating oil and optional systems.

The normal customer package

Extract hw.zip completely into its own program folder and start Haus-W.exe. Keep the associated files together. Choose the app language in Settings; enable or disable German voice guidance separately.

Data belongs to your Windows account

Saved Haus data and settings are located in the Windows account's stable Haus-W data folder, outside the extracted program. Licence status and installation markers are also separate from the program folder. A normal ZIP program change therefore does not start a new trial period and is intended to retain existing data and rights.

Your first reading round on the PC

1. Open Readings and New reading; select the actual reading date.
2. Compare the meter name, register, number and unit with the device.
3. Enter actual cumulative meter readings. Unknown details remain empty.
4. Check the input and click Save. Voice guidance is initially OFF.
5. Export a complete JSON backup to an independent location.

A fresh installation remains neutral

The customer package contains neutral meter structures, no personal historical measurement collection and no private full-version file. Your own data is imported only through an explicitly selected file import or an explicit complete restoration. The Android customer file in the same product family is named ha.apk.

A data backup contains Haus data. Full-version rights, the trial period and server access credentials are not transferred from it.

02. Input and drafts

Look, enter, check and save with the final click.

Enter meter readings

Under Readings → New reading, select the date and meter and enter the reading. A cumulative meter reading is the number on the device, not estimated monthly consumption. Name, register, number and unit help with assignment. An explicit zero is known; an empty field is unknown.

Save and continue taking readings

Save & next meter saves the current reading and continues according to the reading order saved in Settings. Inactive categories or those hidden from the round are skipped; their measured values are retained. If voice guidance is enabled, the next meter is named.

Save first, then exchange

Unsaved fields are the current input draft. Before importing, importing from Haus-S or verifying a program, save them first or explicitly discard them. Exports output saved data and are not a backup of an open form. When closing with pending details, the program asks how you want to handle them.

Cancel with two clicks

The Cancel button discards the current draft only after two explicit clicks. Saying Abbruch only highlights this button. Two further clicks are still required afterwards. Saved data is retained. A recognised number is never saved by speech recognition alone.

Correct with source information

The view shows the most recent readings; the complete dataset remains in the backup. Before correcting, check the date, meter and segment. Native JSON/CSV/XLSX files allow controlled changes with a preview. Keep an independent JSON backup beforehand. Unknown additional native details are not silently removed.

If the program reports a changed data snapshot, reopen the preview. An old preview must not overwrite a change saved in the meantime.

03. Photovoltaics and monthly values

Generation, feed-in, import and historical monthly data remain distinguishable.

The correct registers

PV generation, feed-in and grid import are different channels. Check the register on bidirectional meters. An incorrect assignment can produce a mathematically plausible but factually wrong balance. The app keeps meters and units separate.

Maintain monthly PV values

Under PV months, select the month and enter documented quantities or monetary amounts. The last calendar day is saved. Missing values remain unresolved. Generation, feed-in, self-consumption, grid import, household consumption and historical remuneration/savings details retain their meaning and source. After checking, select Save.

A month is not a daily measurement

Complete monthly values can be added into documented quarters, half-years or years. They are not distributed across days or weeks. Exact shorter meter periods require appropriate readings at the boundaries. Costs are not invented without documented data.

With battery storage, the balance remains unresolved

With enabled battery storage or documented storage operation, generation, feed-in and grid import alone are insufficient for a reliable household consumption/self-sufficiency balance. If the complete energy balance is missing, raw-data metrics derived from it remain unresolved. Direct meter statistics and documented historical monthly values remain usable.

For historical irregularities, the original value is retained with its note. A mathematically unusual month is not silently smoothed out.

04. Water and electricity meters

New water values up to three decimal places; greater historical precision is retained.

Read the water meter

New water entries support no more than three decimal places in m³. This allows litre portions to be recorded. Use the actual meter reading and displayed unit. An empty entry does not confirm a zero value.

Preserve historical precision

Native imported Haus data may contain water values with more than three decimal places. These historical values retain their full precision in storage and exchange. The display and XLSX format must not silently truncate them to three places. New manual or externally mapped entries continue to follow the three-place rule.

Household, workshop and systems

Each electricity meter retains its channel, register and segment. Electricity in kWh, heat in kWh, water in m³, tank stock in litres and storage power in kW are different quantities. They are not added into a supposed total consumption.

If a difference does not match

1. Check the date, unit, meter and register first.
2. Then check the meter segment and documented replacements.
3. For decreases or unresolved dates, read the note and clarify the source.
4. Add missing measurements only when an actual source is available.

A documented zero and a missing measured value remain different states in CSV, XLSX, JSON and PDF too.

05. Heating oil: delivery and tank

The delivery journal and tank stock are two separate data sources.

Record a delivery

Under Oil & tank → Oil delivery, enter the date, litres delivered and gross invoice amount. Alternatively, enter the net amount together with VAT; the gross amount is calculated from them. Supplier and note complete the record. The price per litre comes from the quantity and invoice. Multiple deliveries on the same day are possible.

Record a tank measurement

Under Oil & tank → Tank reading, enter the date and known litres and/or measured height. At least one measurement is required. The second is approximated linearly only with suitable tank dimensions. Review the Check tank measurement preview and click Save measurement & displayed calculation. Tank dimensions are maintained under Meters & system. An unknown tank level does not mean the tank is empty. Leave unknown input values blank.

Delivery is not consumption

Delivered quantity, delivery costs and quantity-weighted average price per litre are delivery statistics. Tank stock is an inventory reading. Estimating consumption requires unambiguous tank readings at the boundaries and documented completeness of the deliveries in between.

Boundary days and gaps

If a delivery and tank measurement occur on the same boundary day, their order may be unresolved. Reliable consumption is then not derived from them. An empty delivery period is also a confirmed zero quantity only when journal coverage is documented; otherwise the analysis remains unresolved.

Estimated consumption from tank measurements is not a calibrated consumption meter. Sources and quality information belong with the result.

06. Systems and PV battery storage

Enable only actual devices and maintain their own meters in a traceable way.

Optional systems

Under Meters & system → Heat pumps & air conditioning, enable only an existing heat pump, split air conditioner or domestic hot water heat pump and click Save systems. The appropriate electricity meters are created separately; a heat meter remains additional. Disabling retains the history.

Domestic hot water heat pump

Hot water tank volume and typical start/end months can describe the system. Both season months are specified together. This description does not block readings, control a system or generate an annual extrapolation.

Battery storage devices and modules

Under PV battery storage → Add base unit, create your own devices. Add expansion module adds up to five active modules per base unit. Model, serial number, power kW and capacity kWh remain separate. Unknown values remain empty. After checking, select Save battery storage; charge and discharge meters remain separate.

Retain history during changes

Existing devices and modules are retained as inactive when omitted or disabled instead of disappearing from the history. The meter assignment of existing battery storage cannot be changed arbitrarily. New devices do not receive invented earlier readings.

The sum of active capacities requires all relevant kWh details. Power ratings in kW are not added as capacity.

07. Meter replacements and starting readings

An actual replacement connects two documented segments.

Record a replacement

Under Meters & system → Meter replacement, select the meter and date and enter the old final reading, new starting reading and new number. Click Save replacement. The new segment begins at the actual starting value. If it starts at zero, enter zero explicitly. Multiple registers are documented individually.

Consider later readings

A retrospective replacement can affect later readings already saved. Until their assignment is resolved, the program rejects such a replacement. An incomplete replacement or unexplained decrease remains a verification note; no consumption is invented across the gap.

Starting reading for the year

Under Meters & system → Starting reading for analyses, the value, year and segment belong to the selected meter. This is not a blanket zero or arbitrary annual consumption. Enter a documented reading. During file exchange, these details remain part of native Haus data.

Maintain meter details

Under Meter details, maintain the name, meter number, register and Meter active setting. Numbers remain text with leading zeros. My meters also shows the unit and segment. Check everything on the device; an old table name is not a confirmed serial number. Disabling and renaming do not delete the reading history.

Back up an independent JSON copy before correcting replacements. Then check adjacent readings and statistics again.

08. Read statistics correctly

Period, unit, source and data coverage belong together.

Choose a period and metric

Under Analysis, select the measured quantity, From/To dates and time intervals, then click Analyse. Day, week, month, quarter, half-year and year each use the appropriate source. Meter differences, monthly PV data and oil metrics remain separate. Inactive meters retain their history.

The actual boundaries

Calendar boundaries are truncated to your selected period. For a calendar interval, the meter calculation requires the reading from the day before it starts and from the final day. If a matching boundary reading is missing, the interval remains unresolved. Weeks begin on Monday and end on Sunday.

Results and coverage

Results show available values, sources, quality and reasons for gaps.

Minimum/maximum/average are based only on available intervals. A total or other metric is calculated as appropriate to the measured quantity. Tank stock and weighted price per litre are not consumption quantities that can be added arbitrarily.

An average is not a measured series

An average per calendar day is calculated from a documented total and actual calendar days. It does not invent daily measurements. Comparable years require the same relevant metrics and corresponding calendar periods; missing data remains visible.

Without a complete battery storage balance, the corresponding self-sufficiency/household consumption calculation remains unresolved. Available direct measurement channels remain separate from it.

09. Missing data and 2026

An unresolved value is more accurate than an apparently precise zero.

Sources are retained

Native Haus data preserves notes, sources, unknown additional fields and exact numeric values. Historical monthly values are neither distributed across days nor smoothed retrospectively. Uncertain dates remain marked as such.

Imported sources for 2026

The private imported sources for 2026 are still incomplete. Their restriction and source details are retained during exchange. They do not cause the entire year to be approved as complete. Documented shorter intervals can be analysed with a note. A fresh customer installation does not contain this private measurement history.

Check an unresolved analysis

1. Are the starting/ending readings and correct segment present?
2. Is a replacement fully documented?
3. Is there an unresolved date or a decrease?
4. Is a monthly value or the battery storage balance complete?
5. Are the delivery journal and prices documented for the period?

Public documents remain neutral

Manuals, help and flyers contain no actual home measurements, private activation files or access credentials. Private sources remain separate from customer documents. Shared tables must continue to distinguish unknown values, confirmed zero and data gaps.

A merely uniform chart is not proof of complete data. Add a value only with an actual source.

10. Four exports and independent backup

JSON, XLSX and CSV for Haus data; PDF for reading and printing.

The appropriate output

Format	Use
JSON	Complete native Haus backup for controlled import or complete restoration.
XLSX	Excel workbook with readable tables and the complete native data basis.
CSV	Readable Haus rows and complete native data basis; editable, controlled exchange.
PDF	Readable A4 data report. Output only, no restoration or PDF import.

Choose the location and file explicitly

Under Data & backup → Export & backup, choose Save JSON, Save XLSX, Save CSV or Save PDF. Save using the Windows file dialog. Saved Haus data is output; a pending draft is not included. Empty datasets remain empty. The file is checked at the selected destination.

Keep independently

Keep a JSON copy outside the app data folder and additionally independently of the same cloud folder. Back up before changing programs, devices/accounts and major corrections. Internal protection files do not replace this separate archive.

Rights and access credentials remain separate

The Haus data export contains no trial period, full-version rights or Haus-S access credentials. Keep a valid private activation separately. Normal program updates change the program folder; the stable Windows data folder remains.

PDF is a report. For a complete dataset, use the native JSON backup or verified native Haus formats.

11. Import, merge and restore

Two different options with a preview and final confirmation.

Select and check a file

Under Data & backup → Merge data, select JSON, CSV or XLSX; PDF is not an input format. Data files must not exceed 32 MB. Native Haus formats contain the complete data basis. Changes to visible rows are imported in a controlled way; invisible additional fields and exact native values are retained.

Map external tables

Select the worksheet, an existing meter and the date and value columns. Date: JJJJ-MM-TT or TT.MM.JJJJ. Unit and meter segment follow the selected meter and date. Invalid rows are identified by row number; correct the source or mapping before the next preview.

Merge

The preview shows New, Changed on one side, Unchanged and Conflict. After a confirmed shared previous baseline, a row changed only on the other device is suggested. A row changed only locally is retained locally. If both have changed the same row differently, make an explicit choice using Check before / after. Missing rows are not deleted. Protect & import selected data checks the licence, draft, source and unchanged local data snapshot again.

Restore completely

Restore complete backup is a separate option requiring explicit confirmation. It replaces the entire application dataset; newer local additions could be lost. For two devices with their own changes, use Merge data. Before every import, a complete rollback backup verified by reading it back is saved. The licence and local settings remain separate.

Protection journal and rollback

The previous dataset is protected before writing. The app checks the new snapshot. If saving fails, rollback is attempted. If rollback also fails, further write operations are blocked. If the original is damaged, it is retained separately before an explicitly selected restoration.

12. Existing Excel templates

Create a new copy deliberately and retain the original.

Map columns or rows

Under Data & backup → Select Excel template, choose the sheet, meter, date column/row and value column/row. Vertically: for example date A and value B. Side by side: for example date R6 and value R7. The ranges must be different. Duplicate or unresolved dates remain verification notes.

Import from the template

Check template values reads stored numbers and shows the import preview with sources. For formulas, only stored results are used; the app does not recalculate formulas. Update an old formula workbook in Excel first if its results might otherwise be outdated.

Save updated copy

Save updated copy first shows the planned changes. Check the report and confirm Explicitly save new copy. Only existing matching numeric cells in the value range are changed; no new rows or cells are added. Formula cells, formula ranges, secondary merged cells and text targets are retained. A protected sheet requires an unprotected input copy.

What is retained

Other parts of the workbook, cell formatting, printer settings and existing harmless HTTP/HTTPS/mailto links are retained. The program never follows or opens such links. The original file is retained; the output receives a new copy name.

Open the new copy in Excel, recalculate formulas and check charts and print preview. The copy function does not promise its own complete Excel calculation engine.

13. OneDrive as a local file folder

The Microsoft client synchronises; Haus-W compares explicitly selected files.

Select folder and mode

Under Transfer → OneDrive / shared file folder, choose Select folder and a locally available Microsoft folder. Function is initially set to Off. Choose Compare & explicitly merge or Use only as a backup drive, then Save setting. The Microsoft client manages sign-in and cloud transfer.

A new backup archive

Save new backup creates a new dated JSON file and verifies its bytes. Existing archive files are not overwritten. No external file is imported in backup mode. An independent second backup location remains advisable.

Manual comparison

Show backups lists files; clicking the desired file name opens the comparison. Confirmed earlier local and external snapshots help distinguish new, changed, missing and conflicting records. The comparison baseline is retained when OFF. Only the preview and final click import selected changes. A source disabled in the meantime blocks the import.

The limits of synchronisation

Missing does not mean deletion. Confirmed local and external previous snapshots are saved for each known partner. This allows changes on one side to be distinguished from simultaneous conflicting changes. The preview remains conservative for unknown older packages. Haus-W includes no separate Microsoft OAuth sign-in or built-in Microsoft access. The Microsoft client manages the locally available folder.

An existing local OneDrive folder does not confirm successful cloud synchronisation. After a provider error, keep the independent local backup.

14. Wi-Fi and private Haus-S storage

Direct synchronisation on the same Wi-Fi network; alternatively, transfer complete native files.

Open Windows connection

Connect both devices to the same private Wi-Fi network. Under Transfer -> Android / Windows on the same Wi-Fi network, select the private computer address and Open Wi-Fi connection. The address and connection code are displayed. The session is time-limited; the receiver closes when you exit.

Pair on Android and check both previews

Enter the displayed address and connection code in Haus-A. Haus-A sends its native data backup. Windows shows the preview; check new and changed values and decide on conflicts. Only your final click saves with a rollback backup. Haus-A then checks the new Windows snapshot and asks before importing it. Only afterwards is synchronisation confirmed on both devices.

If the connection is interrupted

Establishing a connection or receiving a package does not confirm saving. If confirmation from the other device is missing, the program shows the pending state. Reconnect and check again; missing rows are not deleted. Windows Firewall and separate guest networks can prevent direct access. File exchange remains an alternative.

Haus-S remains an additional one-way transfer

Private data storage is separate from the shared program update folder: /b-software/h/da/. Haus-S can retrieve an Android backup provided there over HTTPS to Windows. The specific file address and protected access credentials are configured separately. Regular retrieval is optional and never imports data automatically.

Connection codes, server access credentials, the licence and demo deadline do not belong in data backups or Wi-Fi synchronisation. Explicitly check user data before complete restoration.

15. 45-day demo, full version and voice guidance

Rights remain in the Windows account. German voice guidance remains an optional extra.

New Windows installation

A new customer installation begins a local 45-day demo. After expiry, reading, export and backup remain available; writing requires valid full-version rights. Data import or extracting a normal ZIP again does not grant rights or start a new trial period.

Your own permanent full version

Master data and settings → Licence & installation shows the licence status. Importing an activation file is offered only while the full version is not activated. The app verifies your own valid Windows file using the original Haus certificate. Explicitly providing a --grant file path at startup is also possible. The customer package stays the same; Android and Windows rights remain separate.

Sealed locally

Windows licence status is protected using DPAPI in the Windows account and checked with a separate installation marker. Both are outside the program folder. Normal compatible program updates retain this status. A copied Haus data backup or program folder does not replace it. Actual DPAPI/account-change testing remains pending.

Voice guidance as an optional extra

Under Help & history → Enable voice guidance extra and Save setting, explicitly enable German recognition. It is initially OFF, optional and has no guarantee of functionality. At the numeric field, start Say number · Optional extra, check the result and explicitly save. Say individual digits after the decimal comma. Leaving the window stops recognition. After Abbruch, two additional clicks are required.

Recognition, microphone and the Windows speech service must be tested in practice. Offline recognition or available text-to-speech is not guaranteed. Keyboard input remains the reliable manual option.

16. Start program updates safely

One shared update folder, the original signature and a rollback backup.

One fixed location for all programs

Haus-W uses <https://www.be-edvsysteme.de/b-software/updates/hw.zip>. Haus-A uses ha.apk in the same folder. Under Master data and settings → Updates & maintenance, enable automatic update checking or select Find and start update now. Disabling automatic checking does not block manual startup. Automatic checks do not install programs without confirmation.

Verify package and program identity

The manifest, higher version number, file sizes and SHA-256 checksums are verified using the original Haus RSA certificate. The product and Windows app ID must match. The original Electron program host does not have its own Authenticode signature; the package manifest signature verifies the complete package.

Confirmed installation

1. Save pending input or explicitly discard it.
2. Download and verify the update; check the displayed version.
3. Back up & install update confirms the data backup verified by reading it back.
4. Haus-W closes; a new program folder is created and the new edition starts. The previous program edition is retained.
5. Check the version, Haus data, settings and activation.

Alternative: save verified ZIP

Save verified ZIP writes hw.zip to an unused destination after verification again. Then close Haus-W and extract the complete package into a new program folder yourself. The stable Windows data folder Haus-W remains; a program update is not data restoration.

The intended paths are specified. Actual server deployment, Windows installation, DPAPI, microphone and printer require separate testing on actual devices.

17. Settings and reading order

How to adapt the display without losing measured values.

Show or hide menu items and systems

Under Master data and settings → View, language & input → Settings, disable individual application menu items and reading categories. Hiding does not delete meters, measurements or devices. Hidden items remain accessible under More functions and can be enabled again. Overview, Data & backup, Transfer, Settings and Help remain accessible.

Colours, app language and voice guidance

Choose the view and text and border colours in Settings. The app language is saved separately. The interface, dialogs and manual are available in eight app languages. German voice guidance requires suitable speech services; keyboard input remains possible.

Save reading order

Drag an entry in the meter list or move it with the arrows. On a touchscreen, briefly hold the handle and move it. Then select Save settings. Saved meter numbers, assignments and existing measurement data remain unchanged. The order also applies at the next startup and to Save & next meter.

Hidden or inactive reading categories are skipped. Their saved position is retained and used again when shown.