



ENERGY

USER MANUAL

Surplus photovoltaic energy Heating and load control

PART I Simple operation

Energy meter → main module → 2000 W heaters

PART II For the installer and expert

Parameters • installations • local WWW • network and Cloud

Draft for technical verification

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How to use the manual

PAMEL ENERGY uses surplus electricity to power loads, for example buffer tank heaters. Part I leads through a simple system: energy meter, main module and 2000 W heaters. Part II describes the expansion, parameters and operation of the entire local web panel.

Manual release 0.2, 27/09/2026. The expansion board has eight RJ45 sockets for DS18B20 probes. Socket 8 is a spare or is used to connect the collector probe. The collector temperature can also be received from the PT1000 module via RS485 or from the PT100 module via Wi-Fi.

Some of the functions described may be of a test nature, optional or dependent on software and equipment versions. Not all functions need to be present in every copy of the controller.

Probe functions are selected in the settings. The collector temperature source is selected separately in the solar collector settings. One selected measurement source is used for one collector function.

Read Part I for daily maintenance. Connections, output tests and part II are intended for the installer. The values shown in the examples are for explanation of operation; temperatures and electrical limits must be selected for the specific installation.

Important safety rules

DANGER - network circuits must be connected by a suitably qualified person after disconnecting all power sources and checking for no voltage.

1. The heater and the tank must have independent thermal protection. Without probes, ENERGY does not measure temperature. With a probe, hardware protection is still required.
2. Do not operate the heater without proper immersion and operating conditions specified by its manufacturer.
3. Stop heating is a program command, not an electrical disconnection. A stuck relay contact may conduct despite the STANDBY state.
4. Protect the device against water, condensation, overheating and access to live parts.
5. Do not connect a router, switch, PoE or live network cable to the RJ45 probe sockets. These are probe connectors, not Ethernet.

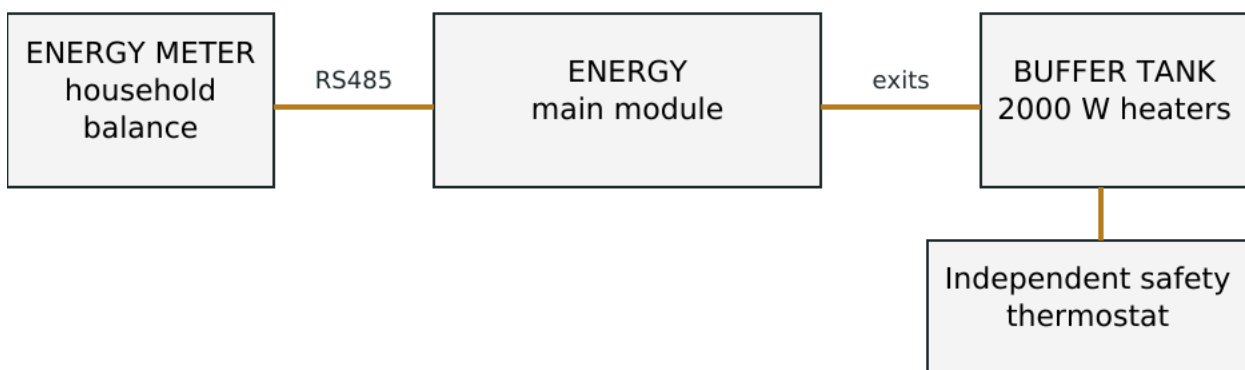
For the base board, the manufacturer provides up to 10 A at 250 V AC for a single relay. This does not confirm the total load capacity of the finished PAMEL product with the extension plate. A 2000 W heater at 230 V consumes approximately 8.7 A; heater and voltage tolerances must be taken into account.

The power limiter limits the controlled loads based on measurements. It does not replace overcurrent protection, electric shock protection or hydraulic protection.

Part I Heat from surpluses

You don't need to know all the parameters to use the ready-made installation. The installer connects the energy meter and heaters, checks the direction of energy flow and activates the automation. You observe the operating status, the amount of energy emitted and any messages.

Staged ON/OFF control



An energy meter measures the home's balance at the point of exchange with the grid. When the house releases energy, ENERGY can turn on the heater. When the surplus disappears, the machine limits or turns off the loads. A local relay switches on the entire power of one load.

Part I Heat from surpluses (2)

On the screen	What does that mean?
Positive power, e.g. +500 W	The house draws energy from the grid.
Negative power, e.g. –2500 W	The house feeds energy into the grid.
STOP	The function is active, but currently not working.
ON	The program instructed you to turn on a given output.

How many heaters can be turned on

In the example, there are three separate 2000 W heaters. Each has its own output. When operating independently, the controller can switch them on gradually. This is not a smooth division of the power of a single heater at the relay output.

Surplus before heating	Example for a summary balance
1000W	Not enough for the full 2000 W - the heater is waiting.
2500 W	One heater can work; approximately 500 W remains.
4500 W	Two can work; approximately 500 W remains.
6500W	Three can work; approximately 500 W remains.

The example assumes no other locks, 0 W allowed export, 0 W reaction margin, independent outputs and the ability to use a summary balance. In phase-separate mode, there must be enough energy also in the phase assigned to each heater.

“Surplus only” means control strategy. Short-term consumption from the network may occur when sunlight changes, house load or measurement delay. ENERGY does not guarantee zero imports or zero exports.

When you turn on the kettle, the machine can turn off the heater. This is a normal reaction: the current needs of the home have reduced the available budget.

First connection using a phone

1. In your phone's Wi-Fi settings, select the ENERGY_PAMEL network. The default access point does not have a Wi-Fi password.
2. If your phone says "No Internet", stay on that network. Access to the controller works locally.
3. Enter <http://192.168.4.1> in your browser's address bar. It's a website address, not a password and not a query to a search engine.
4. If the panel requires login, enter the panel password you set. The panel password is different from your home Wi-Fi password.
5. Open Overview. For configuration, select Setup Wizard.

Connection to the router is optional for local operation. Makes it easier to enter from your computer and allows you to contact the Cloud. The entire connection procedure can be found in the Network and PAMEL Cloud chapter.

Do not attempt exits or reassignments during normal browsing. The installation test may physically activate the heater or pump.

If the AP name or address has been changed, use the data set by the installer. The physical access recovery function restores the default address temporarily, without erasing the installation.

Simple Energy Meter and Export wizard

Go to Installation Wizard → SIMPLE CONFIGURATION. This route is intended for only surplus consumers on six local relays, without temperature control and without expansion modules.

1. Step 1 - Energy meter. Select your exact CHINT model: DDSU666 1F, DDSU666-CT 1F, DTSU666 3F or DTSU666-CT 3F. For CT, enter the primary and secondary current from the transformer plate.
2. A simple configuration assumes energy meter address 1, speed 9600 bit/s and 8N1 format. If your energy meter has different settings, use the advanced route.
3. Step 2 - Uploading. In the Allowable export [W] field, enter 0 if you want to use all the surplus possible, or e.g. 100 to leave a small export.

Entering the simple wizard prepares a new, simplified set of settings: disables the functions of tanks, pumps, extensions and power consumption limiter in the working version. Do not use it as a shortcut to change one parameter of a ready-made, extensive installation.

For the 3F energy meter, the wizard selects regulation separately for phases. For 1F, it assigns loads to L1. Do not assume that the total surplus alone will be enough to turn on the heater on any phase.

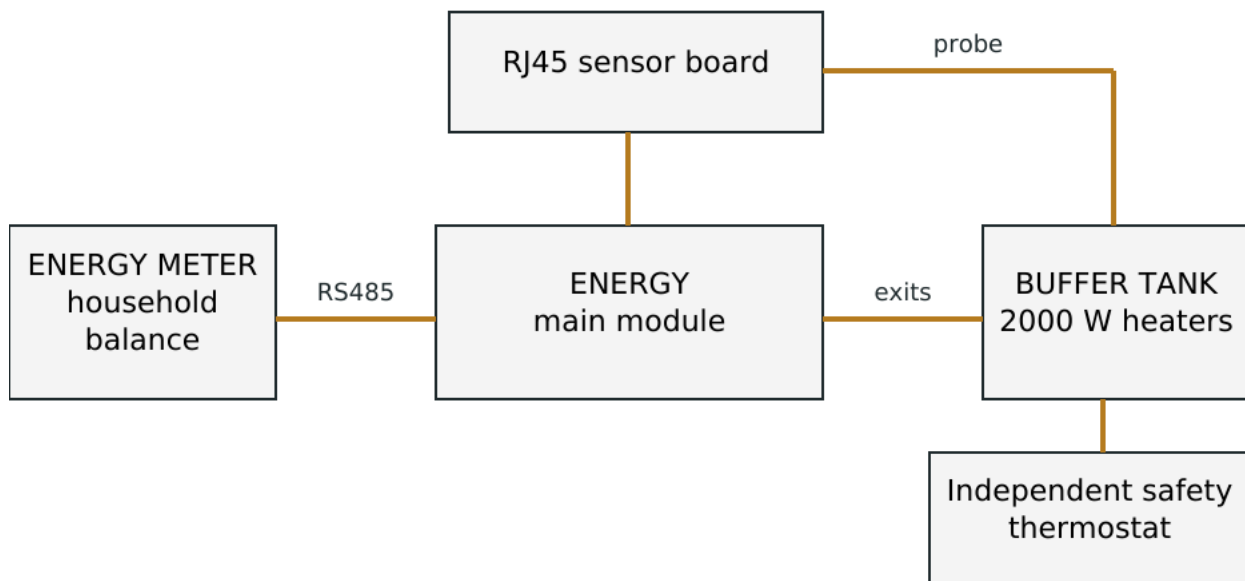
A simple Heater and start wizard

1. Step 3 - Loads. With the outputs actually connected, select Used. Leave the rest. I don't use them.
2. For each heater, enter 2000 W, if its label has this power. Select the actual power phase and switching order: 1 before 2, 2 before 3.
3. Step 4 - Check. Compare the wiring diagram. Select Save and check installation. This stage saves the configuration with control disabled and starts reading the energy meter.
4. Check that the energy meter responds and that the values and power sign are correct. The words "Energy meter responds" alone do not confirm the correct current transformer ratio or phase sequence.
5. The installer tests the necessary outputs. Then select Run automation and check the work in Overview.

In this configuration, the output function is called Surplus Energy load. It does not use probes or a buffer tank temperature limit. The heaters and buffer tank must have their own thermal protection.

The wizard sets a response margin of 100 W and minimum ON/OFF times of 5 s. If necessary, the installer can later change these in Energy and Installation. Don't take the factory margin as a promise of no imports whatsoever.

Recommended variant Add a buffer tank probe



One probe in the upper part of the buffer tank allows you to control the temperature and stop heating in accordance with the settings. Independent thermal protection remains required.

1. Stop heating. Connect the standard DS18B20 PAMEL probe to the RJ45 socket on the expansion board.
2. In Installation, assign its persistent ROM address to Buffer Tank · top. Recognize it by heating the tip and observing the reading.
3. In CH / buffer tank, enable the buffer tank, select 1 - top and the heating method Surplus only.
4. For the same physical outputs, change the function from Surplus load to CH heater. Maintain correct powers, phases and order.
5. Set the surplus heating target, maximum temperature and hysteresis according to the installation. Check the schedule and alternate goal.
6. Select Check and apply, remove errors and confirm the new settings. Check for blockage after disconnecting the required probe.

Daily operation without looking at parameters

1. In the Overview, check AUTO and the current balance. A green communication status does not mean that the heater must be working.
2. On exit, select Why? Read the specific reason for stopping or switching on.
3. When an ALARM or PROBES appears, click the mark in the top bar. The list will identify the device, probe, or setting requiring attention.
4. To stop heating, in System select Stop heating. Once the cause has been removed, select Resume Automation.
5. Mute for 1 hour turns off the sound for 60 minutes. It does not remove the fault and does not unblock the output.

Situation	What to do
The sun is shining and the heater is on	Check the surplus on the correct phase and the Why? button.
The buffer tank is already hot	With the probe assigned, the normal cause may be the temperature reached.
The phone lost connection	Reconnect. The absence of a page does not mean that the automation has stopped.
No Internet	Use AP or local address. The controls still work.

Do not increase the maximum temperature or current limit just to clear the alarm. These settings result from the permissible installation conditions.

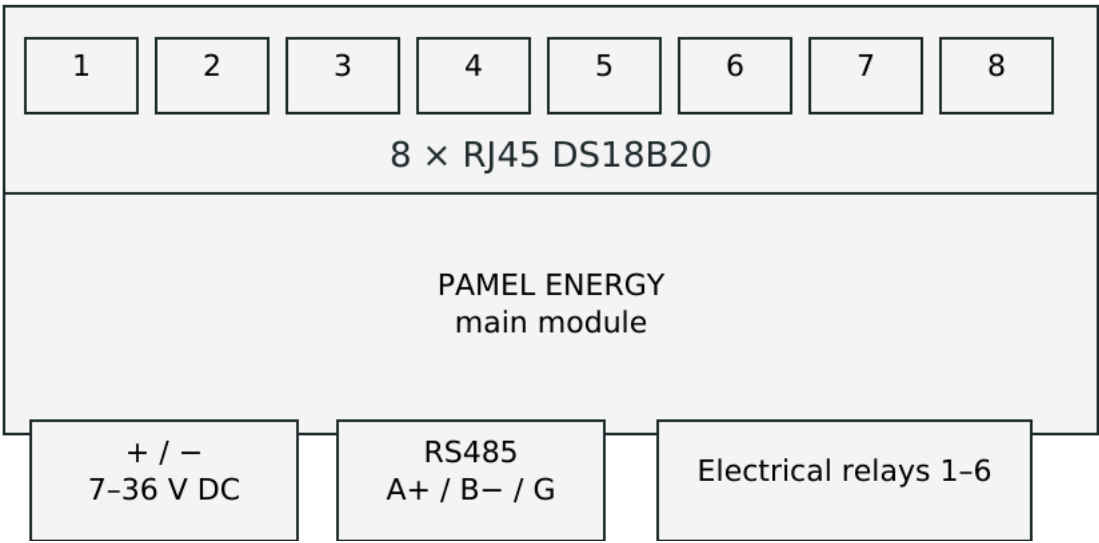
Part II Configuration design

First select the task, then the equipment and then the parameters. Separate the physical load from the program function: the same local output can control a central heating heater, a domestic hot water heater or a surplus load, but not both functions at the same time.

Installation	The most important requirements
Only surplus heaters	Energy meter, outputs, powers, phases, independent thermal protection.
Buffer tank with temperature control	As above and 1 or 2 buffer tank probes and a CH heater role.
central heating and hot water	Separate functions of tanks, outputs and probes, priorities.
Circulation	Active hot water with measurement, pump; optional return probe.
Weather-compensated control	External probe and buffer tank measurement.
Heat pump	HP enable input compatible, measurement of the tank being served.
Solar collectors	Tank and collector measurement: DS18B20, PT1000 RS485 module or PT100 Wi-Fi module.

Without an energy meter, the temperature controller can operate in a mode that allows power from the network. It is then impossible to determine the available surplus or protect the connection based on energy measurement.

Connectors and device architecture



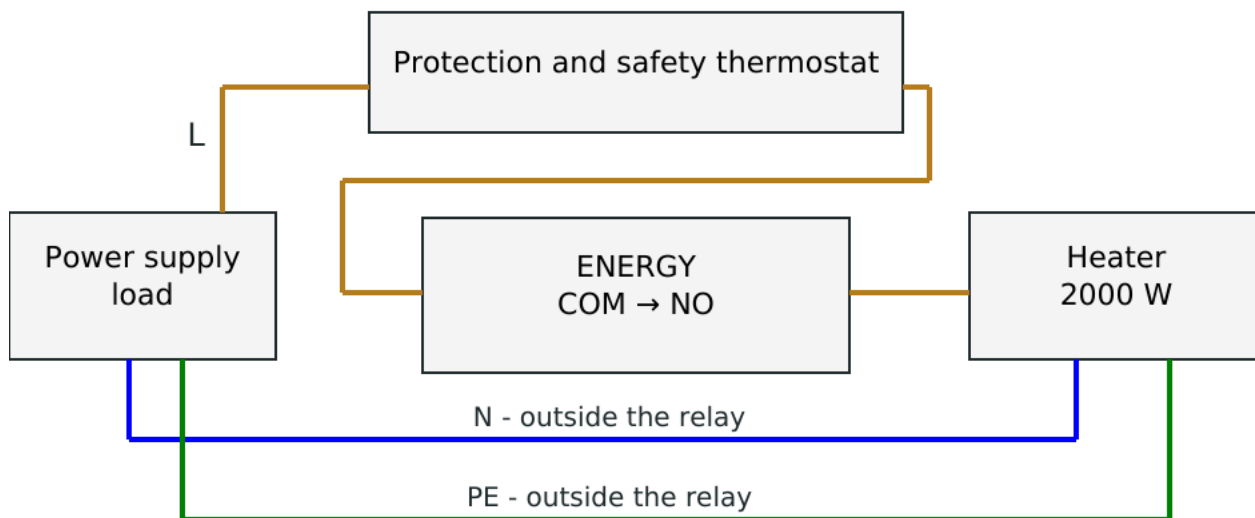
The drawing shows the functional layout. The rectangle represents the main module and the top block represents the probe extension board. This is not a representation of the housing or an assembly plan of the terminal spacing.

Interface	Destiny
Eight RJ45 sockets	Standard DS18B20 PAMEL probes; functions selected in the panel.
Solar probe from the module	PT1000 via RS485 or PT100 via Wi-Fi.
RS485	Energy meter and compatible REL/PWR6 modules.
Electrical relays 1-6	Local ON/OFF outputs; roles assigned in the program.
Power supply to the base board	7-36V DC on the clamp or 5V USB-C, according to the board documentation.

Connectors and device architecture (2)

Connect the PT1000 or PT100 probe to the input of the appropriate measuring module. Do not connect it directly to the DS18B20 socket or to the A/B terminals of the RS485 bus.

Connecting the heater and energy meter



Functional diagram - not terminal numbering

The diagram shows the principle of connecting one channel. The NO contact turns on the load path after the controller's command, COM is the common contact of the channel, NC remains unused in this example. The relay does not generate power supply to the heater.

Each 230 V heater has its own properly selected circuit. The protective conductor reaches the parts requiring protection and is not switched by ENERGY. Protections and a safety thermostat are selected by the installer for the complete installation.

The communication connection of the energy meter is RS485. Check the A/B markings in the documentation of a specific energy meter; do not transfer terminal numbers between DDSU, DTSU and CT versions. The energy meter must measure the exchange of the entire facility, including PV, house consumption and controlled heaters.

When connecting, follow the markings on the strip: + and – for DC power supply, A+, B– and G for RS485 and the contact symbols of individual channels. Do not connect wires based solely on the position of the rectangles in the diagram.

RJ45 probes and function assignment

Pin of standard RJ45 probe	Signal
3	GND - ground
4	DATA - 1-Wire bus
6	VCC - probe power
1, 2, 5, 7, 8	Not connected in the standard DS18B20 probe

The numbering should be read in accordance with the connector markings. The view of the plug and socket can be mirrored. Use compatible PAMEL probes for your finished device; do not apply mains voltage or PoE to any pin.

The maximum total length of all DS18B20 probe cables is 30 m. Include probe cables, extensions and branches in the total. This is the limit of the entire probe installation at the controller, not 30 m for each socket.

Program function	Application
Outdoor/Indoor	Weather/room correction.
Buffer tank · top / Buffer tank · bottom	Central heating measurement; second point when configuring 2 probes.
hot water · top / hot water · bottom	Measurement of domestic hot water; bottom also for solar collectors.
Return of circulation	Cycle ends when hot water arrives.

The socket does not designate a function. The selection is made by the probe ROM address. One address cannot be assigned to two functions. After replacing the probe, assign a new address.

Probe cables How to calculate limit 30 m

Add the lengths of all DS18B20 cables connected to ENERGY, including the collector probe in slot 8. Count the common physical cable length once; do not add up the lengths of the wires inside the cable separately.

Example	Total and rating
8 probes of 2 m each	16 m - 14 m remain for extensions.
6 probes of 3 m each and 2 probes of 6 m each	30 m - the entire limit has been used.
8 probes of 4 m each	32 m - limit exceeded.

Route the cables away from the heater, contactor and inverter cables. Do not leave unnecessary turns and random branches. After extension, check the reading stability of all probes when switching loads.

The 30 m limit applies to DS18B20 cables at ENERGY. Does not specify the length of the RS485 or PT100/PT1000 cable for a separate module; the requirements of a given module and probe apply there.

Main unit terminals

Hardware base: ESP32-S3-Relay-6CH. The module has six independent relay channels. Channel numbers 1–6 correspond to physical relays; You assign load functions in the panel.

Designation	Connection
+/-, 7–36 V	DC power supply; keep polarity. Do not connect 230V.
A+ / B–	RS485 communication pair: A to A, B to B according to device markings.
G on RS485	Reference terminal of the RS485 side. It is not a power output or heater protection terminal.
COM channel 1–6	Common contact of the selected relay.
NO channel 1–6	Normally open contact; use COM–NO for the heater.
NC channel 1–6	Normally closed contact; in the heater arrangement shown remains free.

The contacts are potential-free. ENERGY does not supply its own supply voltage through them. Each heater track requires appropriate protection; N and PE are carried out outside the relay.

The markings are confirmed by the module manufacturer's documentation: docs.waveshare.com/ESP32-S3-Relay-6CH. The manual drawings show the functional connections, without photos of the device.

Checking the energy measurement

1. Set the energy meter model and communication parameters. Save the configuration without running the workloads.
2. In Energy → CHINT Readings, compare voltage, current and power with your energy meter display. Check the reading of each phase.
3. With known consumption and no export, power should be positive. When actually releasing energy, it should be negative.
4. For transformers, check the current transformer's ratio, direction and correspondence of current and voltage phases. Do not compensate for incorrect wiring by accidentally changing the scale.
5. Attach a individually controlled test load. Check which phase responds and assign that phase to the output.
6. Only after checking the value and sign, start the surplus adjustment.

The Reverse Power Sign field changes the program's interpretation of the direction. It does not repair reversed phases or incorrectly selected current transformer ratio. It is used after checking the actual measurement direction.

The CT profile recalculates the readings according to the primary/secondary current setting. Avoid double counting: check what a specific energy meter variant returns. The program does not set the current transformer ratio in the meter itself.

Do not open the secondary circuit of a working current transformer. Operations on the meter and CT are performed by the installer according to the manufacturer's documentation.

Two advanced configuration methods

Path A - Installation Wizard → ADVANCED CONFIGURATION. The eight steps are Connection, Your Installation, Probes, Outputs, Energy Meter, Energy, Comfort and Summary. Next and Back buttons organize your work; return is not a command to run outputs.

Route B - direct pages Installation, CH / buffer tank, domestic hot water / circulation, Energy and Schedules. This way is convenient for changing a single setting of an already configured system.

1. Make changes. The panel saves the draft; the working configuration still applies.
2. Select Check and Apply. Read the differences between draft and live.
3. Fix indicated output conflicts, number errors and missing probes. The link in case of an error leads to the correct setting.
4. If the program suggests partial operation, carefully check the list of disabled functions. Do not consider it a full installation launch.
5. Confirm application and check the current status in the Overview.

The simple wizard has an additional Save and Check Installation step that saves the settings with control disabled. This step should not be confused with the draft itself in the advanced way.

Scenario Buffer tank with one or two probes

Purpose: to charge the buffer tank with PV energy and stop heating when the temperature is reached. Example: three 2000 W heaters, independent outputs 1-3, real phases L1/L2/L3, priorities 1/2/3.

1. Turn on the central heating/buffer tank. Select 1 - top and assign the top probe or 2 - top + bottom and assign both points.
2. Select Surplus only. For the example of a target of 60°C, choose a safe maximum temperature that is higher than the target but permissible for the tank and installation.
3. Set the buffer tank schedule consciously: in surplus modes, the program compares the regular target with the surplus target and uses the larger one. A simple target of 0 turns off the heat demand.
4. In Installation, set the CH heater roles. Do not leave these outputs as a Surplus Energy load if they are to be subject to the buffer tank temperature.
5. In Energy, leave the central heating heaters working together when they are supposed to be switched on separately. Check phase and guard requirements.

Two probes provide two levels of control. The maximum limit is checked against the warmer one. A required but damaged or unassigned probe blocks the tank heating. Do not replace repair with switching to 0 probes.

Reception: confirm readings, temperature limit, stop on probe loss and behavior on loss of communication with energy meter.

Scenario Buffer tank and hot water

Goal: first use the surplus for domestic hot water, and then for the buffer tank. Example: one domestic hot water heater and three central heating heaters, 2000 W each. loads must have separate physical outputs.

1. Turn on both tanks, assign probes and select Surplus Only for both.
2. Give the domestic hot water output the role of DHW heater and a lower priority number, e.g. 1. Give the central heating outputs further priorities, e.g. 2, 3 and 4.
3. For each load, enter the power of 2000 W and the actual phase. The function line number is not automatically the physical relay number.
4. Set separate surplus goals and maximum temperatures for both tanks. Check schedules, alternate goals and leave restrictions.
5. Test the condition in which domestic hot water is already heated: the available surplus can go to the buffer tank if it meets the other conditions.

Higher priority does not bypass temperature limit, probe missing, phase budget or connection restriction. When 2000 W is needed on one phase, the larger total surplus on the other phases is not necessarily sufficient for phase-by-phase regulation.

The Temperature also from the grid and Surplus + comfort minimum modes allow for targeted energy purchases. Do not choose them if the installation is to heat only from surpluses.

Comfort scenario and weather controller

This variant belongs to the expert part and can use energy from the grid. Turn it on only when the user consciously wants to maintain the temperature regardless of PV.

1. Assign the Outdoor probe and at least the Upper buffer tank probe. Turn on the weather controller.
2. Set Buffer tank at -10°C and Buffer tank at $+10^{\circ}\text{C}$. The program determines a linear curve between the points and limits the result to 15°C ... maximum temperature.
3. Optionally assign Indoor, enable Room Correction and set a room schedule.
4. The room impact determines how much to change the buffer tank target for each degree of error in the room. Example: a missing 1°C and an impact of $3^{\circ}\text{C}/^{\circ}\text{C}$ increase the target of the buffer tank by 3°C .
5. Assign an output for the central heating pump, set the Minimum central heating pump start temperature and Central heating pump run-on.

With curve settings of 55°C for -10°C and 30°C for $+10^{\circ}\text{C}$, at an outdoor temperature of 0°C the result is 42.5°C before room correction. This is an example of a calculation, not a recommended temperature for any building.

Without the correct external probe, the substitute setting works. Without the correct room probe, there is no blockage from the room thermostat. Summer mode disables normal central heating tasks; check domestic hot water and protective functions separately.

Scenario: Hot water circulation

Goal: hot water at the tap at selected times, with limited pump operation. Active domestic hot water with temperature is required; the variant without hot water probes does not provide this function.

1. Assign the output to Domestic hot water circulation. Set the minimum tank temperature below which the pump should wait.
2. Turn on Weekly Program. In Schedules → Circulation, set OFF outside the necessary times.
3. For the morning and evening, select e.g. TAKT 1. Set its work and break times, e.g. default 120 s of work and 900 s of break; adjust to the installation length.
4. If you have a return probe, assign it, turn on the Circulation Return Probe and set the Cycle End Temperature.
5. Select Safe Mode without correct time. Default is OFF.

ON means that the window is permanently enabled, but the temperature conditions are still in effect. TAKT repeats work and break within an hour. When the return reaches the set point, the pump will stop; permission returns after cooling by 3°C.

Vacation turns off automatic circulation. If the weekly program is disabled, the 24-hour mode applies, not the time table. When changing your strategy, check both settings.

Heat pump and extensions scenario

ENERGY provides a common permit for the operation of the heat pump. It does not replace the factory controller or the central heating/hot water hydraulic switching.

1. Confirm the pump enable input type and connect it according to the pump manufacturer's documentation. Do not apply 230 V to a potential-free input.
2. Enable Heat Pump Permit, select central heating, domestic hot water or central heating + domestic hot water and provide the required probes.
3. Assign the Heat Pump function to the appropriate relay output. Enter the modeled input power and phase.
4. Set the minimum enable time and minimum standstill as required by the pump.
5. Consciously decide whether the heaters can simultaneously provide additional heating from the network. Check the connection budget.

Version 0.3.4 models HP consumption with one power and one phase. It does not reflect the full three-phase consumption of the heat pump. Do not use this simplification as the only protection for its perimeter.

REL adds two relay outputs, PWR6 adds six SSR channels. ENERGY RTU/1 compliance is required. An older module with an RS485 port does not become compatible just by connecting the wires. After communication loss, control of a given module is blocked; the executive module requires its own watchdog.

Scenario Solar collectors

First, select the collector temperature source: DS18B20 in slot 8, PT1000 via the RS485 module or PT100 via the Wi-Fi module. If there is no current collector temperature, the solar pump remains blocked.

1. Choose a tank that receives heat - central heating or domestic hot water. For domestic hot water, provide a bottom probe. For central heating, the program can use the bottom for two probes or the top for one.
2. The switch-on difference determines the required temperature increase of the collector above the tank. The switch-off difference must be smaller.
3. Protective charging allows you to receive heat above the normal target, but not above the protective limit or maximum tank temperature.
4. Pump Lock at High Temperature and Restart from Lock describe behavior in a stagnation threat condition. The values are selected for the actual solar system.
5. Night discharge can dissipate heat through a cool collector if the plumbing allows it. During this time, the sources of additional heating for a given tank are blocked.

The Stop heating and manual OFF buttons do not disable active protective charging of solar collectors. Probe failure, maximum temperature and stagnation lock still apply. Do not cut off the protective function to "force a stop" without the assessment of the installer.

Solar probe Three temperature sources

Source selection	Connection method
DS18B20	Standard PAMEL RJ45 probe in slot 8 of the expansion board; assign its ROM address to the collector.
RS485 + PT1000	PT1000 connected to a compatible measurement module; the module transmits the temperature to ENERGY via RS485.
Wi-Fi + PT100	PT100 connected to a compatible Wi-Fi measurement module; ENERGY receives the temperature in the local network.

If you are not using the local DS18B20 solar probe, socket 8 remains spare. Selecting a remote module does not require connecting the PT100/PT1000 to the DS expansion board.

The DS18B20 measures temperatures up to +125°C. The complete probe and cable may have a lower temperature rating. Do not use this probe where the collector can exceed its rated range, including while the circulation pump is stopped. For such an installation, use a suitably rated high-temperature probe and measurement module.

The maximum solar temperature setting is 125°C. Protective heat transfer starts earlier, at the configured threshold. Its effectiveness depends on a working pump, sufficient flow and the tank being able to absorb heat. A software threshold cannot prevent the collector from heating up when a fault occurs or power is lost.

Solar probe Setting and checking

1. In the solar collector settings, select one collector temperature source. Stop the circuit before changing the source.
2. DS18B20: connect the probe to RJ45 No. 8, recognize its ROM and assign it to the collector. Include cable in the 30 m limit.
3. RS485 + PT1000: connect the probe to the module. Set compatible communication parameters and a module address different from the energy meter and other modules. In ENERGY, select the correct module and channel.
4. Wi-Fi + PT100: connect the measurement module and ENERGY to the same local network. Select the correct module and measurement channel. Connection to PAMEL Cloud does not replace local measurement transfer.
5. Check the collector temperature and the freshness of the reading. Compare the result with a reliable measurement and make sure you are looking at the correct probe.
6. Set the receiving tank, temperature differences and protection thresholds according to the allowable range of the entire measuring path. Apply configuration.
7. The installer checks the reaction to disconnection of the probe or loss of communication: the lack of a current measurement will block the solar pump. Once the signal is restored, verify that the correct reading returns.

Don't connect any module just because it has RS485 or Wi-Fi. Must be ENERGY compliant and support the correct probe type. PT100 and PT1000 are not interchangeable without proper hardware configuration.

Network and PAMEL Cloud Three ways of access

Access	What is needed
AP without a router	Telephone in the network ENERGY_PAMEL; default http://192.168.4.1 .
Locally via the router	Controller and phone or computer on the same network. Address visible in the panel.
Cloud over the Internet	Connection of the controller to the Internet and the PAMEL Cloud service available.

The AP remains on even after connecting to the router. Internet loss does not stop local control. You can still enter via AP or the local address in the router.

1. Open System → Select your Wi-Fi network.
2. Select Search for Wi-Fi networks, tap your 2.4 GHz network and enter the password. You can enter the hidden network manually.
3. Select Save and connect. Wait for confirmation and the address for your computer.
4. Connect your computer to the same router. Open the given address <http://...> or use the QR code.
5. The Copy Local Address button makes it easy to transfer your address. A fixed device name only works on networks that support device name resolution.

A blank Wi-Fi password retains your existing password. For the new secured network, enter the appropriate one. Select the Open network - remove saved password field only for networks that actually do not have a password.

Network and PAMEL Cloud Password and access recovery

1. In System → Service access, enter New panel password and Repeat new password. The minimum is 4 characters. Choose your own hard-to-guess password.
2. Empty fields retain the current password. Without a panel password removes the login requirement, also if a password was previously set.
3. In Permanent access via AP, you can assign a recognizable name, e.g. ENERGY_BOILER ROOM, and another private address, e.g. 192.168.5.1.
4. Select an AP subnet other than the router's subnet. After saving, connect to the new name and open the new address.

Physical AP recovery function: holding IN1 for 3 seconds restores ENERGY_PAMEL and 192.168.4.1 to reboot and opens a 15-minute AP recovery window. Does not delete the installation. In the code, IN1 means shorting GPIO6 to GND; the connection method on the finished product must be marked by the manufacturer.

GPIO6 is not a 230V or 24V input. The user of the finished product should use the provided service button or connector without opening live parts.

The local panel uses HTTP. Don't expose it by forwarding your router's ports to the Internet. The panel password does not encrypt local HTTP transmissions.

Network and PAMEL Cloud Report and status

ENERGY 0.3.4 reports automatically when you get internet. In the local System → PAMEL CLOUD page, the user does not enter a token or activation key. Older manual token instructions do not match this version.

A condition or action	Meaning
Cloud online / OK	The last contact was successful; the beam considers it fresh for 180 s.
REGISTERING / offline	No confirmed fresh contact. Check Wi-Fi, Internet and diagnostics.
Reporting and telemetry	Sent approximately every 60 seconds; power data requires a fresh energy meter.
Reading commands	Approximately every 15 seconds; this is not instant control.

User entry point: <https://serwer.pamel.pl/>. ENERGY section: <https://serwer.pamel.pl/energy/>. The automatic device registration status does not confirm the account's rights to remote viewing.

The firmware supports commands to stop heating from the Cloud. The detailed settings described in this manual are made locally. You should not expect a remote equivalent of every local panel field.

The views and access procedure of the account in the current Cloud portal require separate verification with a running version of the server. They have not been confirmed for this draft.

Network and PAMEL Cloud Breaks and privacy

PAMEL Cloud is an optional additional service, independent of the basic local operation. Remote access, its scope, compatibility, period of activity and terms of use are determined separately for the service and may change in accordance with current conditions.

Internet outage or Cloud unavailability does not stop the regulator. Local history is stored in RAM and disappears after a restart. The program does not play old local samples to Cloud after a break; a gap may remain in the remote graph.

Regulations:

https://serwer.pamel.pl/legal/PAMEL_CLOUD_REGULAMIN.pdf

Privacy policy: https://serwer.pamel.pl/legal/PAMEL_CLOUD_POLITYKA_PRIVACY.pdf

Technical data sent by this version includes ID, version, device status, temperatures, energy balance, phases, outputs and modules. The data is not a billing measurement of the heaters' energy.

No measurement is not zero. When your energy meter does not provide current data, do not interpret the absence of a point on the graph as zero consumption. Thermal status report may still reach Cloud.

For a Cloud issue, first check your local Wi-Fi and router connection, then the status and code in Diagnostics. Don't delete your installation configuration just because the server is unavailable.

WWW Navigation and common buttons

The left menu leads to: Overview, CH / buffer tank, domestic hot water / circulation, Solar collectors, Energy, Schedules, Holidays, Charts, Installation wizard, Installation and System. On the phone, the menu is pulled out with the menu button and closed with a cross or by touching outside the panel.

Element	Action
Check and apply	Opens comparison and validation of settings before deployment.
Save as a draft	Preserves the edit without deploying it to the running automation.
What does this mean?	Develops help on the field.
Why?	Explains the status of the selected output and available manual actions.
Close / Cancel	Closes the window; does not confirm the application of the change.
Back / Next	Moves through the wizard steps.

The top bar shows the Wi-Fi quality, Cloud and the AUTO, STOP, ALARM or TEST mode. Clicking ALARM and PROBE shows details. Energy meter, REL and PWR6 warnings are visible when there is a problem.

When the connection is lost, "No connection - data out of date" appears. Then don't judge current performance based on old values. Website connection and automation work are separate things.

WWW Overview

Input: menu → Overview. Returning from other pages: Overview again. This is a basic observation screen, not a settings table.

1. Installation balance - the power sign distinguishes between consumption and feeding into the network. The message next to it informs, among others: on export restriction or guard.
2. Buffer tank central heating, Hot water, In the room - temperature measurements; the normal purpose is not always the purpose of surplus heating. A line means no measurement.
3. Heater energy - estimate from rated power and control, not a separate billing energy meter.
4. Your Energy Rhythm - Balance Chart. Charts opens a page with a larger range of data.
5. What's working now? - active function cards. The bar shows the control and the description shows the reason for operation. All outputs move to Energy.
6. The Heat for your home, Comfort every day and Energy from the sun tiles open central heating, domestic hot water and solar collectors, respectively.
7. The installation wizard allows you to choose a simple or advanced configuration.
8. Go to PC shows local address, QR and AP status.

STANDBY means an active function that is temporarily uncontrolled. The hidden feature can be disabled in the configuration; the lack of a card does not prove a failure. The message "Partial operation" means that part of the function is blocked.

WWW central heating and domestic hot water

Input: CH / buffer tank or domestic hot water / circulation in the menu.

Back: Overview. In both tanks, the service activation and the number of probes are first selected.

With 0 probes, the page is simplified and informs about the lack of temperature control. The variant only works from surplus. With 1 or 2 probes, the heating method, comfort minimum, surplus target, maximum temperature, hysteresis and substitute temperature appear.

1. The central heating/buffer tank also includes a weather controller, room correction, summer mode, two curve points, room target, room influence, minimum pump temperature and overrun.
2. The Heat Pump section includes permission, circulation, simultaneous reheating and minimum operating/idle times.
3. domestic hot water / circulation includes a weekly program, 24-hour mode, mode without a valid clock, minimum tank temperature, return probe and three timing sets.
4. Below the settings there are output cards related to a given function. Select Why? to find out the reason for the current status.

The edit applies to the draft version. Finally, select Check and Apply. Detailed ranges, steps and effects of settings are provided in the parameter catalog below.

A load using excess energy does not benefit from tank limits. For the temperature-controlled heater, select the appropriate role: CH heater or DHW heater.

WWW Energy and CHINT readings

Entry: menu → Energy. At the top you can see the current status of the guard. The Power limiter section includes its activation, consumption limit, reserve, L1/L2/L3 current limits and permission for comfort reheating after the loss of the energy meter.

Your rules for energy include permitted export, reaction margin, phase-separate regulation and joint operation of central heating heaters. Next are the Active Outputs and CHINT Readings cards.

Reading	Interpretation
Active power W	Current energy exchange; + collection, – export.
Reactive power var / power factor	Additional electrical quantities of the energy meter. They are not the power of the heater.
Frequency Hz	Power frequency read from the energy meter.
Energy consumed/delivered kWh	States of the energy registers of the operated energy meter.
Net energy	Value of the appropriate register of the energy meter; availability depends on model.
Apparent power VA	Value calculated as voltage × current.

Sections L1-L3 show measurements of individual phases. The last reading helps you recognize freshness. A dash means no reading or an unsupported register, not a zero value. Changes to limits are applied using the Check and apply button.

WWW Schedules and Vacation

The schedules have four tabs: Buffer tank, central heating, domestic hot water, Room and Circulation. Each contains seven days of 24 hours. Select a temperature or mode, then tap the time tile to change it.

1. The whole week fills all 168 fields. The day name button fills in that day.
2. Copy Monday to workdays duplicates Monday to the remaining workdays; weekend must be checked separately.
3. Tile 06 indicates the interval from 06:00 to 07:00. The circulation is clocked within hours.
4. After editing, select Check and Apply. With weather conditions, the usual purpose of the buffer tank follows the curve, and the room schedule describes the comfort of the room.

The holiday has activation, From and To dates, central heating/hot water/room temperatures and the ability to turn off normal tank heating. The date and time are local time. The end must come after the beginning.

End Vacation now ends the current vacation mode. Vacation automatically turns off circulation, and protection of solar collectors and maximum temperatures remains active. In excess only mode, the minimum temperature may not be reached.

A dated holiday requires the correct clock. After restarting without time synchronization, the program uses substitute settings; don't assume that the hourly plan is already working.

WWW Charts and statistics

Input: menu → Charts or the Charts button in the Overview. Select Last 3 hours or Last 24 hours and use Refresh charts. Download CSV saves data for analysis outside the panel.

1. The energy balance shows the network power in W, not directly the energy in kWh.
2. The temperatures include the points of the buffer tank, domestic hot water, collector and room. The green line indicates measurement; dashed amber - regular target.
3. The min/max band shows the spread of readings within the interval. The line represents the average.
4. When did the exits work? shows periods of activity. The color indicates work for at least part of the interval, not necessarily the full 100% of the entire minute.
5. The event log contains the time, output number and reason for the change. Without the correct time it uses minutes from the start.

The three-hour history is aggregated per minute, the daily one every five minutes. The chart request limits the number of points. Local data and events in RAM disappear after reboot. Energy and time counters are persisted periodically, so a sudden shutdown may lose the last recording period.

The current panel does not have a separate "Statistics" menu item. Operational information is split between Overview, Charts, CHINT readings and diagnostics. The estimated energy of the heaters should not be confused with the energy registers of the energy meter.

WWW Installation

Entry: menu → Installation. This is the installer page. Includes wizard entry, tests, control startup, probe assignments, output functions, energy meter model and RS485.

1. The installation test activates the selected channel for 10 seconds after confirmation. STOP - turn off outputs interrupts the test; End Tests leaves the testing session.
2. meter TEST, REL TEST and PWR6 TEST check the communication response. The correct answer does not replace power, phase and wiring checks.
3. DS18B20 probes: for each function, select the address and possible correction. Reading next to it makes identification easier.
4. Functions and outputs: each row has a role, physical output, phase, power, priority, Min. ON and Min. OFF.
5. Energy meter model: selection The absence of an energy meter disables its reading. The CT profile shows additional transformer fields.
6. RS485 bus: enable only current compatible modules; set different addresses and common speed and parity.

Two functions cannot control the same physical output. A warning on the assignment indicates a conflict. Solve it before full launch.

After checking, the installer confirms: Installation configured - run the control, then Check and apply.

WWW System and Solar Collectors

The system collects Wi-Fi connection, AP, update, password, Cloud status, computer address, alarm sound, diagnostics, resets, reports and a copy of the configuration. The detailed network procedure is in one chapter Network and PAMEL Cloud.

1. Check Update asks the server for the version. Install runs the update; with the same version, Reinstall may appear.
2. Diagnostics shows version, ID, free memory, Cloud score and number of correct/erroneous RS485 frames.
3. Reset Installation Settings and Remove Wi-Fi are different actions. They require service access and confirmation.
4. Download Report CSV saves the report; Send report to PAMEL consciously sends diagnostic data.
5. Download Configuration saves JSON. Load configuration from file starts reading and reviewing changes, it should not be treated as an unconditional start.

Solar collectors includes Heat collection, Collector protection and Night discharge. The fields define the tank, temperature differences, protection thresholds, night window and cooling target. The collector temperature source is selected from three measurement methods described in the chapter on the solar probe. Without a current collector measurement, the pump should not be expected to operate.

Back from both sides: menu → Overview. General Settings implements Check and Apply; Wi-Fi and AP connection have their own save buttons.

Parameter catalog How to read the settings

Each description below gives the range, step and initial value of the setting. The state of a specific item may be different after configuration, import or update. The simple wizard changes some of the values, as indicated in the descriptions.

The field range is not a technical approval for the installation. The fact that you can enter a temperature of 100°C or a power of 30,000 W does not mean that a given tank or relay can work like that.

For switches, the range is Off/On and the step is the state change. For lists, you select one of the options described. Times in the panel are given in seconds; the internal recording of some times uses milliseconds.

Dependencies between fields are checked upon saving. The program may reject a number contained in the field itself if it violates the relationship, e.g. the minimum exceeds the maximum temperature or the reserve is greater than the consumption limit.

In 0.3.4, the central heating pump minimum temperature and circulation temperature fields may visually allow 0°C, but the record requires at least 5°C. The catalog specifies the range effectively accepted by the program.

In everyday use, follow the Polish names of the panel. After changing settings, check the summary before applying them.

Parameters Central heating and hot water tanks

Enable tank service

Off/On; default Off

Activates the operation of the selected tank. It is not enough to turn on the heaters: proper output roles, measurements and activation confirmation are needed. Turning off central heating does not mean turning off separate surplus consumers.

Number of buffer tank probes / Number of hot water probes

0, 1 or 2; default 1.

0 means no temperature control and only allows surplus mode with an energy meter. 1 uses top; 2 requires top and bottom. With two probes, the maximum temperature is checked relative to the warmer one. The choice also affects the availability of pumps and regulators.

Heating method

Only surplus / Temperature also from the network / Surplus + minimum comfort; default is the third option.

Only the surplus requires energy measurement. The temperature also from the network maintains the usual purpose with import allowed. The mixed mode allows imports below the comfort minimum and achieves a higher temperature from the surplus. For part I, choose the first option.

Parameters Central heating and hot water tanks

Minimum comfort

0...tank maximum °C; step 0.5°C; default 35°C.

Threshold for intentional reheating in mixed mode. The effective minimum does not exceed the current regular target. Example: a minimum of 35°C and an hourly target of 30°C result in a minimum of 30°C. In surplus-only mode, there is no energy purchase.

Purpose of heating from surplus

0...tank maximum °C; step 0.5°C; default 65°C.

In surplus and mixed modes, the program heats to a higher value: regular target or surplus target. A regular target of 0 blocks the demand. When on holiday, the holiday purpose applies. The setting does not apply to the role of Surplus load.

Maximum temperature

20...100°C; step 0.5°C; default 80°C.

Hard software limit for a metered tank. Select below tank, fixture and audience limitations. Other goals and the schedule cannot exceed it. No probes mean no control; a hardware thermostat is still necessary.

Parameters Central heating and hot water tanks

Hysteresis

0.2...30°C; step 0.1°C; default 2°C.

Heating again reports a demand below the target minus the hysteresis and ends at the target. Example: target 60°C, hysteresis 2°C - re-demand below 58°C. A large hysteresis increases temperature fluctuations.

Substitute temperature without time

0...tank maximum °C; step 0.5°C; default 35°C.

Normal target in the absence of a valid clock. For central heating, also used in the absence of a reliable external weather probe. Does not change the energy source mode: with Surplus Only, surplus is still needed.

Hourly temperature central heating / domestic hot water

168 fields; 0...tank maximum °C; step 0.5°C; default 45°C every hour.

Sets a regular goal for each hour of the week. 0 disables normal heat demand. When it comes to weather conditions, the central heating target comes from a curve. In surpluses, check the relationship of normal goal and surplus goal.

Energy parameters

Export allowed

0...100000 W; step 1W; default 0 W

The amount of energy that can be left for release. A smaller value allows you to use more of the surplus. This is the purpose of the load controller, not the limiting function of the inverter. When there are no loads or the reservoir heats up, exports may increase.

Reaction margin before limit

0...5000 W; step 1W; default 100W.

Adds a margin to the surplus budget calculation. It may allow small imports in the overall balance. Example: with a 1950 W surplus, a margin of 100 W may allow for the full 2000 W if the other conditions are met.

Adjustment separately for phases

Off/On; default Off; a simple wizard for 3F sets On.

Turning on also limits the load with a surplus on its phase. The exclusion uses the summary balance sheet. Example: export to L1 does not have to allow heating on L2. The choice depends on the measurement system, installation and expected balancing.

Energy parameters

Central heating heaters work together

Off/On; default Off

It combines heaters with the role of CH heater into a common group. A group containing relays requires a full group power budget. Three 2000 W heaters can therefore wait for a 6000 W budget. This is not a standard choice for gradual inclusion.

Turn on the guard

Off/On; default On; simple wizard sets Off

Controls the import limit and predicted phase currents of controlled loads. Requires correct energy meter, power and phase assignments. It does not provide for any sudden load on the house and does not replace fuses.

Maximum total consumption

100...200000 W; step 1W; default 10000W.

Upper import budget for the guard algorithm. Select the connection and installation; do not enter the power of the heaters only without taking into account other loads. The effective budget is reduced by the reserve.

Parameters Power limiter

Reserve before the consumption limit

0...value less than W consumption limit; step 1W; default 300W.

Leaves a distance from the border. For the 10,000 W limit and 300 W reserve, the calculation includes 9,700 W before the other limits. Too large a reserve limits heating; too small reduces the reaction reserve.

L1/L2/L3 limit

1...200 A for each phase; step 1A; default 16A.

Limitation of the predicted phase current. Enter the value selected by the installer for circuits and protections. The phase assigned to the output must correspond to reality; otherwise the calculation may refer to the wrong phase.

Comfort reheating after loss of energy meter

Off/On; default Off

Switching on allows substitute comfort heating without energy control and connection after failure of the configured energy meter. Does not reproduce surplus measurement. For the "surplus only" requirement, leave it disabled.

Output Parameters

Function

Unused, CH heater, Hot water heater, Hot water circulation, Central heating pump, Solar pump, Heat pump, Surplus load.

Selects the row control logic. By default, lines 1-3 are central heating, 4 domestic hot water, 5 circulation, 6 central heating pump, 7 solar, 8 HP; 9-14 not used. These are not all features that are automatically enabled. A simple wizard uses a load that uses excess energy.

Physical output

Unassigned, Relay 1-6, REL 1-2, SSR 1-6; default next outputs.

Connects a program function to a module terminal or channel. One physical channel can have one active function. REL and SSR require modules. Do not assign a pump or HP permit to the SSR; are intended for heaters.

Phase

L1, L2 or L3; by default L1/L2/L3 repeated.

The phase that actually powers a given load. Used in phase control and guard. For the 1F energy meter, assign all loads to L1. This is a description of the electrical connection, not a command to switch the phase by the controller.

Output Parameters

load power

0...30000 W; step 1W; default 0 W

Actual power for budget calculation. Enter 2000 W for a 2000 W heater. Zero does not correctly describe an active heater. The scope of the form does not increase the load capacity of the relay. A simple wizard initially suggests 2000 W after turning on the channel.

Priority / Switching order

0...30; step 1; default numbers 1...14.

The smaller number has priority when dividing the available power. A value of 0 is allowed and precedes 1. Equal priorities preserve row order. Priority does not bypass maximum temperature, no measurement or phase limit.

Min. ON / Min. OFF

5...3600 s each; step 1 s; default 5 sec.

Minimal operation and downtime limits switching of mechanical relays. A longer time may delay the load's connection. Hard lockdowns take priority and the loss of available budget may stop heating sooner; this is not a guaranteed power delivery time.

Probe parameters and startup

Probe address

ROM address not assigned or detected; default unassigned.

Select separately for each DS18B20 function used; for the collector, first select the DS18B20 source. The address identifies a specific probe. Check it by heating the tip. Reversing the plug does not necessarily change the assigned function; after replacing the probe itself, a new assignment is needed.

Temperature correction

−10...+10°C; step 0.1°C; default 0°C for each function.

A permanent correction added to the measurement. Example: the probe shows 1°C too little for a reliable comparison - +1°C correction. First rule out the difference of mounting location and thermal contact. Do not mask a damaged probe with correction.

Installation configured - run the controls

Off/On; default Off

Confirmation of automation readiness after checking assignments, power and security. The draft version does not enable outputs. Commissioning may be partial if only functional functions are consciously allowed; check the block list.

Parameters Energy meter

Select an energy meter

None; DDSU666 1F; DDSU666-CT 1F; DTSU666 3F; DTSU666-CT 3F.
Default: None.

The profile defines the register map and the measurement conversion method. Just selecting the model activates the reading when applied. The series name does not guarantee the compatibility of every energy meter variety; compare registers and actual display.

Primary current of the transformer

1...9999A; step 1A; default 100 A.

Applies to CT profiles. For 100/5 A, enter 100. It must be at least equal to the secondary current. Entering a different current transformer ratio will distort the current, power and energy and the guard's decisions.

Secondary current of the transformer

1A or 5A; default 5 A.

Despite the range of the number field 1...5, the entry only allows 1 or 5. The ratio is the quotient of the primary and secondary current. Example: 100/5 gives a multiplier of 20. Check if the measurement is not already converted by another element.

RS485 parameters

Energy meter address / REL / SSR

1...247; step 1; default 1 / 20 / 21 respectively.

All three addresses in the configuration must be different. The address must match the device on the bus. A simple wizard sets up an energy meter at address 1. Address conflicts may result in no or incorrect communication.

RS485 speed

1200, 2400, 4800, 9600, 19200, 38400 or 115200 bit/s; default 9600.

Common speed for energy meter and modules. Not every number that fits on the form is accepted. All devices must use the same setting. The simple wizard requires 9600.

Parity

None 8N1 / Even 8E1 / Odd 8O1 / None 8N2; default 8N1.

Specifies the transmission format. Must match the configuration of all RS485 devices. Consistent speed alone is not sufficient when parity or the number of stop bits are different.

RS485 parameters

REL relay module / SSR PWR6 module

Off/On separately; default both Off

Only enable the compatible module that is actually connected. Activation starts its operation and diagnostics; lack of response causes blocking of related functions. Disabling the setting does not replace the module's hardware watchdog.

Reverse the power sign

Off/On; default Off

Reverses the interpretation of the power direction in the profile. Compare known intake and export before use. It is not intended to repair incorrect phase sequence or current transformer ratio. After the change, check both the total and phase balances.

Weather controller

Off/On; default Off

Replaces the usual hourly buffer tank target with the result of the outdoor temperature curve. Requires an external probe and measurement of the buffer tank. Lack of a reliable external measurement results in the use of a substitute temperature.

Parameters Central heating regulation

Buffer tank at -10°C / Buffer tank at $+10^{\circ}\text{C}$

15...100°C; step 0.5°C; default 55°C / 30°C.

Two points of a linear curve. Higher values increase the purpose of the buffer tank. The result is limited by the maximum temperature. Match to heat loads; the high temperature inherent in one system may damage another.

Room temperature correction

Off/On; default Off

It uses a room probe and its target. In weather conditions, it corrects the temperature of the buffer tank and influences the demand of the central heating pump. When the room measurement is unreliable, it does not lock the room thermostat.

Room substitute setting

5...60°C; step 0.5°C; default 21°C.

Target room temperature when the controller does not have a valid clock. When the time is known, the room schedule applies; during holiday mode, the holiday target applies. This is not the maximum safety temperature of the installation.

Parameters Central heating regulation

Room influence

0...10°C/°C; step 0.1; default 3.

Buffer tank target correction gain: value times the difference between target and room measurement. Zero removes this temperature correction. Increase carefully, observing the inertia of the building, rather than making several changes at once.

Summer mode

Off/On; default Off

Limits normal central heating heating. domestic hot water has separate control. Please check the roles of the loads before use: universal The surplus energy load is not the same as the CH heater and does not inherit all the conditions of the buffer tank.

Minimum starting temperature of the central heating pump

5...100°C; step 0.5°C; default 30°C.

The central heating pump waits until the buffer tank is warm enough. The setting limits the distribution of water that is too cold. Example: at a threshold of 30°C and a cold buffer tank, the reason for the shutdown is The buffer tank is too cold.

Parameters Central heating regulation

Central heating pump overrun

0...3600 s; step 1 s; default 120 sec.

Time of final heat collection after the demand disappears. Zero disables the timer. The condition may be described as Pump Run. Protective conditions and exit availability still apply.

Hourly room temperature

168 fields; 5...60°C; step 0.5°C; default 21°C.

The purpose of the room for the hour. Used for room correction and room measurement. Do not enter 0 as the OFF command: the room range starts at 5°C. The time is considered according to the local time of the controller.

Permission for a heat pump

Off/On; default Off

Activates the HP common enable function after output and measurements are assigned. It does not turn on the compressor directly, bypassing the pump automation. Requires electrical compliance of the permit input.

Parameters Heat pump

Supported circuit

central heating / hot water / central heating + hot water; central heating by default.

Selects tanks for which a permit may be required. Selecting both does not control the diverter valve itself and does not replace the HP regulator. Any circuit used must have reliable required probes.

The heaters can be heated from the mains at the same time

Off/On; default Off

It allows for parallel additional heating with heaters in comfortable conditions instead of preferring HP. May increase imports. The temperatures and the guard are still working. Do not turn on only surplus heat for heating purposes.

Minimum permit time / Minimum standstill

5...3600 s; step 1 s; default 300 s / 300 s.

Reduce frequent enable switching. Select according to the HP manufacturer. No probe, temperature limit and hard limits take precedence. Set the power and phase of the modeled consumption in the HP output line.

Parameters Circulation of hot utility water

Weekly program

Off/On; default On

When enabled, the controller selects modes from the 7 × 24 schedule if the clock is valid. When disabled, it uses the All-day mode. Without a valid clock, it uses the Mode without valid time, regardless of the schedule.

24/7 mode / Mode without correct time

OFF / ON / TAKT 1 / TAKT 2 / TAKT 3; default both OFF.

OFF stops the circulation, ON gives permanent permission, TAKT uses the work/break cycle. Restrictions on tank temperature, optional return and holiday always remain. Selecting ON does not mean unconditional operation of the pump.

TAKT 1 / 2 / 3 - work

5...3600 s; step 1 s; default 120 / 180 / 300 s.

Time of the active part of the cycle for each set separately. A shorter time reduces water transport in the cycle. Adjust to the hot water supply time; the return probe may terminate the permit earlier.

Parameters Circulation of hot utility water

TAKT 1 / 2 / 3 - break

5...86400 s; step 1 s; default 900 / 600 / 600 s.

Standstill time between active cycle sections. The cycle results from the seconds of the week, and without time from the controller's operating time. You should not expect that every page refresh or hour entry will start the cycle over again.

Minimum tank temperature

5...100°C; step 0.5°C; default 35°C.

Below this level, circulation does not distribute cool water. The measurement comes from active domestic hot water. By raising the threshold, you can extend the wait for the pump to operate with low PV production.

Circulation return probe

Off/On; default Off

Activates return supervision after the probe address is assigned. Helps turn off the pump once hot water arrives. If enabled, failure to measure correctly requires diagnostics rather than raising the termination temperature.

Parameters Circulation of hot utility water

Cycle end temperature

5...100°C; step 0.5°C; default 40°C.

With the return probe active, reaching the threshold stops circulation. Re-permission occurs after a drop of 3°C. Example: for 40°C, the return must cool down to approximately 37°C, with all other conditions met.

Hourly circulation mode

168 fields; OFF / ON / TAKT 1 / 2 / 3; default everywhere OFF.

Select a painting mode and mark the hours needed. OFF on the grid screen may be shown with a dash. The schedule does not replace the minimum temperature and return protection; an active tile does not guarantee continuous operation.

Enable holidays on the specified date and From / To

Off/On; defaultOff; dates not initially set.

Enables an interval with a start inclusive and an end exclusive. The end must be later than the beginning. A reliable clock is required. The End Vacation Now button lets you come back early.

Parameters Holiday

Minimum temperature of the buffer tank for central heating / domestic hot water while on holiday

0...tank maximum °C; step 0.5°C; default 15°C / 15°C.

Replaces the regular goal during an active vacation. In surplus it is not guaranteed to achieve the minimum without sun. A temperature that is too low for a specific facility does not provide protection against freezing for the entire installation.

Minimum room temperature

5...60°C; step 0.5°C; default 12°C.

The purpose of the room during the holiday period. It is important for measurement and room control. It is not an automatic promise to maintain this temperature if there is no heat source or the mode only allows surpluses.

Turn off normal central heating/hot water while on holiday

Off/On separately; default both Off

Sets the given tank's normal target to zero while on vacation. Protective functions are considered separately. Automatic circulation is turned off during holidays, regardless of its weekly tiles.

Parameters Solar collectors

Turn on the operation of solar collectors / Heat receiving tank

Off/On, default: Off; central heating or hot water, by default hot water.

Activation requires pump output and collector and tank temperatures. Tank selection determines the probes and limits used for protective charging and overnight cooling.

Switch-on difference / Switch-off difference

Switching on 2...50°C; shutdown 1...49°C; step 1°C; default 8°C / 4°C.

On must be greater than off. They concern the collector-tank difference when heating and the reverse when cooling. Example 8/4 limits operation with low heat gain. They are not absolute collector temperatures.

Protective charging begins

50...124°C; step 1°C; default 110°C.

At high collector temperatures, it allows the tank to be charged for a separate protective purpose. Must be lower than the pump lockout threshold. Selection depends on fluid, pressure and system design; Factory value does not replace design.

Parameters Solar collectors

Protective tank charging limit

0...100°C and not more than the maximum of the selected tank; step 0.5°C; default 75°C.

Defines the purpose when receiving excess heat from the collector. It may be higher than the normal target, but not above the allowable tank temperature. Once the limit is reached, the pump cannot heat the tank any further.

Pump Lock/Resume from Lock

Lock 51...125°C; resumption 40...124°C; step 1°C; default 125°C / 115°C.

The resume must be lower than the lock. Too hot collector stops the pump to cool down. The parameters require an assessment of evaporation risk and installation feasibility; do not increase them to avoid stagnation.

Allow the tank to cool at night

Off/On; default Off

It allows heat to be released through a cool collector in a designated window. It requires a hydraulic system enabling such work and the correct timing. During actual cooling, the program blocks reheating of a given tank.

Parameters Solar collectors

Start/End of the night window

0...23 h; step 1 h; default 22/6.

The time window can cross midnight: 22-6 means overnight operation. Equal start and end times mean a full-day window in the algorithm; they do not disable the function. To disable it, use the separate Allow tank cooling at night switch.

Target temperature after discharge

0...protective charge limit °C; step 0.5°C; default 40°C.

Cooling does not go below the minimum comfort or holiday accepted by logic. Too high a value may prevent the expected night heat release. This is not the purpose of heating.

Wi-Fi network name and password

SSID up to 32 bytes; password up to 63 characters; default: no network.

Select a 2.4 GHz network or enter a hidden name. Save and connect saves network data regardless of heating. A blank password retains the previous one. There is a separate password removal field for the open network.

Network and access parameters

AP network name

1...32 bytes without control characters; default ENERGY_PAMEL.

The name of the controller's own network. Give different names to several devices. After changing, select the correct phone network again. During emergency access, the new setting will take effect after a reboot.

AP IP address

Private IPv4 with /24 mask; default 192.168.4.1.

Allowed private ranges 10.x, 172.16-31.x, and 192.168.x; the last octet cannot be 0 or 255. Select a subnet other than the router. Saving the address does not change the address received from the home router.

New panel password / Repeat / No panel password

New password minimum 4 characters; by default no password set.

Both entries must match. Blank retains the current password. Without the panel password, it removes the login. Don't confuse these fields with your Wi-Fi password; are saved in the configuration application procedure.

System parameters

Sound of alarms

Off/On; default On

Turns on the sound signaling of alarms. Mute for an hour works temporarily, and changing this setting is permanent once applied. Silencing alone does not fix the alarm, does not change security measures and does not unblock the heating.

Manual control and testing

Button Why? opens an explanation of a specific exit. Temporary overrides and return to automation are available for supported functions. Safeguards still apply; the ON command does not guarantee that the load will be turned on.

Manual operation time is limited, and after it expires, automatic operation returns. In the software interface, the allowed range is 1...3600 s. Manual operation of heaters and circulation does not replace the installer's test session.

1. Before testing, check what is connected to the selected output and whether it can be run safely.
2. The output test lasts 10 seconds. The remaining automation is suspended for the duration of the installer session.
3. STOP - turn off outputs interrupts the active test. End tests restores operation to the saved settings.
4. The communication test confirms the exchange of data, not the physical opening of a contact or the actual flow of current.

Forcing manual heating may have a purpose other than simply using the surplus. Do not use it for daily operation if only PV heating is required. Entrust the physical output test to the installer.

Update and backup settings

1. In System, select Download Configuration and save the dated JSON file. The copy does not contain passwords or secrets.
2. Before updating, ensure the conditions for a break in control and a stable power supply.
3. Select Check for Update. Read the information about the available version.
4. Select Install. During installation, the outputs are turned off, after completion the controller restarts. Do not disconnect the power.
5. After re-entering, check the version, assignments, energy meter and probe readings, and output operation.

Load configuration from file opens JSON ENERGY and shows changes before applying. Version 0.3.4 preserves current local network/AP data on import; you cannot recover passwords from export. Check probe and output compatibility after transferring configuration between devices.

Resetting installation settings preserves network, access and counters. Delete Wi-Fi deletes your home network data. These are separate operations requiring confirmation and access via AP/service window. Do not reset the installation as the first diagnostic step.

A full factory software image is not a simple update that retains your settings. Wire programming of the full image is a service activity.

PAMEL BUS and extension communication

ENERGY uses two different communication mechanisms. The network PAMEL_BUS should not be identified with the RS485 executive module protocol.

Mechanism	Version scope 0.3.4
PAMEL_BUS in the local network	JSON pb:1 via UDP 45100; detecting and reading information.
ENERGY RTU/1 on RS485	Control of compatible REL2 and PWR6 modules, common bus with energy meter.

The network interface responds to DISCOVER, STATUS, INFO and PING. The application does not provide an additional panel or remote SET/CLAIM. Detection of a device in the network does not mean that it can be controlled from any PAMEL panel.

On RS485, ENERGY is the only master. The modules have different addresses, common speed and parity. There is no broadcast automatic detection of these modules. Configure only ENERGY RTU/1 compatible devices.

Confirming a module means accepting a command, not measuring the contact state. The module must disable channels locally when valid commands are lost; the profile provides for 3 seconds. The module library in the package requires adaptation to its actual board - it is not a ready-made input for any hardware.

What happens in the event of a failure

Event	User reaction and action
No current energy meter	Surplus unavailable; measurement-dependent heating blocked. Check RS485 and power supply to the energy meter.
No probe required	Heating of a given tank is blocked. Check address, cable and reading.
Phase missing / voltage too low	The program blocks heating depending on the correct power supply. Have it checked by your installer.
No REL/PWR6 module	Features that use the module are unavailable; executive watchdog required.
No Internet	Local control works; remote data may be out of date.
Controller power failure	After returning, it starts and reads the saved settings. RAM history is not coming back.

Minimum run times do not take precedence over hard locks. Once the cause has been removed, check for a STOP, manual shutdown, or error that requires conscious reapplication of the configuration.

If the heater heats despite the command to turn it off, disconnect the power supply using a safe device and call the installer. Do not attempt to repair a stuck contact by changing settings.

Messages Reason for work or stoppage

Incorrect configuration - function disabled

Correct the indicated errors and apply the settings consciously.

Disabled in configuration

The function has not been started.

No demand

Target achieved or operating conditions not met.

Maintaining comfort

Heating to a comfortable temperature can use energy from the grid.

Use of surplus

The power is adjusted to the available energy.

Messages Reason for work or stoppage

Restricting exports

The load uses energy to limit feed back into the grid.

No correct measurement

Check probe assignment, cable and last reading time.

Temperature limit

The limit temperature has been reached. Further heating is blocked.

No energy measurement

The function requires a fresh reading from the energy meter or consent to substitute operation.

Power limiter

load limited due to draft limit or available group budget.

Messages Reason for work or stoppage

Phase current limit

The load was limited so as not to overload the assigned phase.

Protection against frequent switching

There is minimal work or standstill time.

Circulation program

The pump works according to the active tile and timing.

Hot water arrived at the return

The pump rests until the return temperature drops.

The tank is too cool

The circulation waits for the water to heat up.

Messages Reason for work or stoppage

Heating demand

The pump transfers heat from the buffer tank to the central heating installation.

The buffer tank is too cold

The pump waits for the minimum start temperature.

Pump overrun

The pump stops receiving heat after the demand disappears.

Heat from the collector

The collector is warmer than the bottom of the tank by the required difference.

Collector protection against overheating

The tank can be charged beyond the normal setting, up to the protective charging limit.

Messages Reason for work or stoppage

Night unloading

The heat is released by the cooler collector. Reheating of this tank is blocked.

Blockage at high collector temperature

The pump remains off until the temperature drops below the restart threshold.

No correct time

The replacement configuration works. The schedule is waiting for synchronization.

Vacation mode

Holiday temperatures apply; circulation is turned off.

Time forcing

After the time has elapsed, the automation will return. Security remains active.

Messages Reason for work or stoppage

Manual shutdown on time

After the time has elapsed, the automation will return.

Heating stopped

Heat sources stopped. The pumps' protective functions remain active.

No module confirmation

Check the RS485 connection, address and power supply of the module.

Lock during cooling

We do not heat the tank, which is now being unloaded.

No output assigned

Assign physical output in Installation.

Messages Reason for work or stoppage

Phase missing / voltage too low

Heating is blocked until proper power returns.

Before you call the service center

Problem	Check one by one
The page does not open	Phone Wi-Fi → proper AP → http:// address → panel password → AP recovery.
No energy meter	Model → address → speed/parity → A/B → power → communication test.
Incorrect power	Comparison with energy meter → profile → CT → phases → sign; do not run adjustments on bad data.
The heater does not start	Why? → load power → phase → available surplus → temperature → times → STOP.
The probe is not working	ROM assignment → plug → cable → working probe → correct expansion board.
Cloud offline	Local Wi-Fi → Internet → Diagnostic Code → Fresh; do not reset the heating.

When reporting, please provide the model, program version, message and circumstances of the occurrence. A CSV report, a copy of the configuration without passwords, and a snapshot of a specific alarm are helpful. Do not send your home Wi-Fi password or panel password.

If the problem occurs after changing the settings, recreate which fields were changed. Change one parameter at a time and observe the effect long enough for the thermal inertia of the system.

Maintenance and assistance

1. Regularly check the cables, terminals and the condition of the housing. Perform activities on electrical circuits after disconnecting the power supply.
2. Check that the probes are seated in the correct places. Don't pull them out by the cord; disassemble after cooling.
3. Separate the probe cables from the heater, motor and inverter cables. Keep the connectors dry.
4. Do not bypass the safety thermostat or raise the limits to hide the alarm.
5. After changing the heater, update the power in the configuration. After changing the probe, assign a new ROM. After changing your energy meter, check the profile and scale.

Do not throw away your used device with mixed waste. Take them to the appropriate collection point for electrical equipment. PAMEL registration number: BDO 000073814.

PAMEL • ul. Urodzajna 5E • 42-300 Myszków • tel. 453-343-360 • pamel@pamel.pl

The latest contact details, instructions and help:

<https://serwer.pamel.pl/>



Atlas of WWW screens

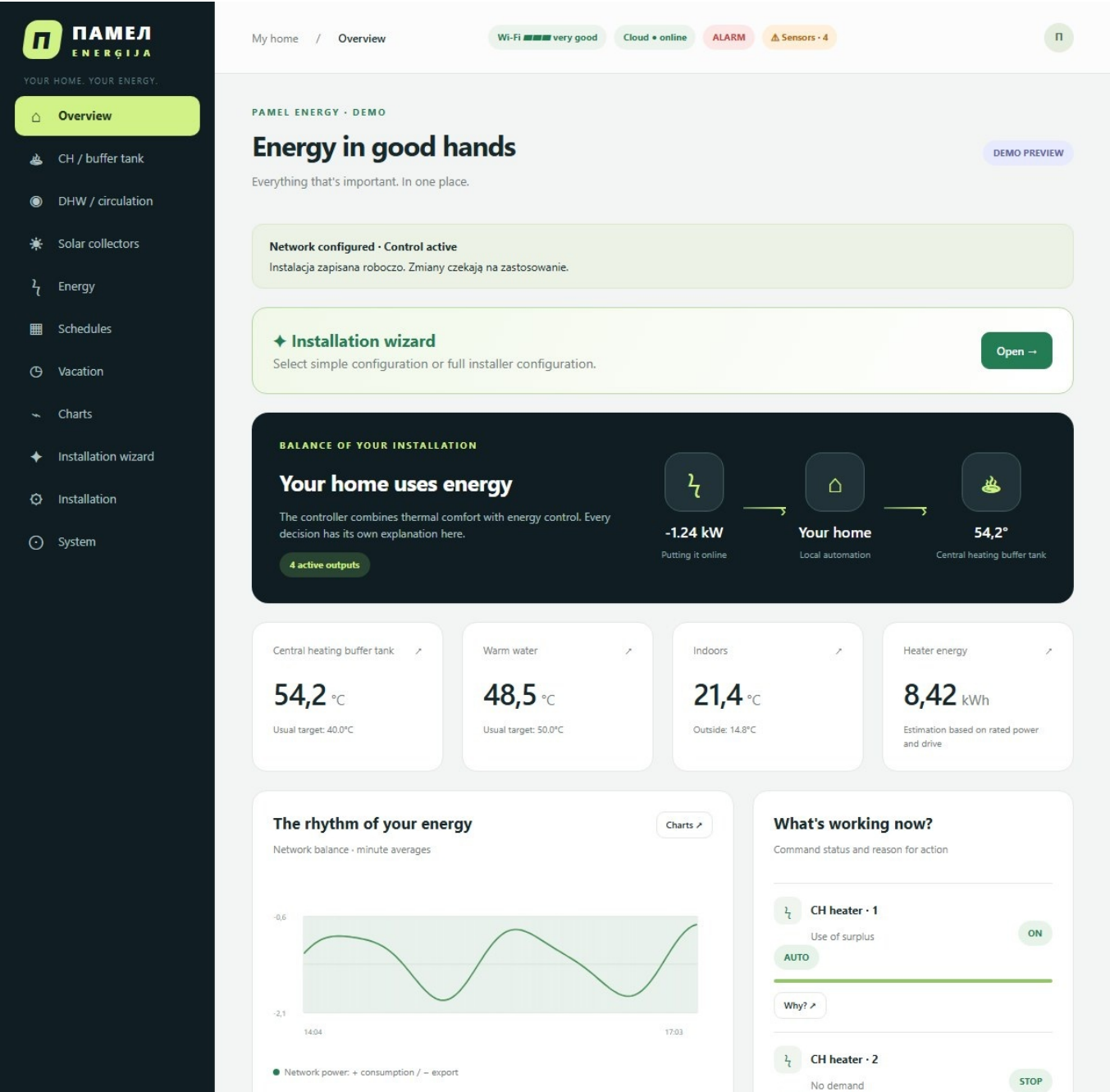
The illustrations show the local ENERGY panel with sample readings and settings. The long pages are divided into successive fragments; in the browser they scroll vertically.

Menu: Overview, CH / buffer tank, domestic hot water / circulation, Solar collectors, Energy, Schedules, Holidays, Charts, Installation wizard, Installation and System. On the phone, the menu opens with a button in the top bar.

To read why the load is working, use Why? To implement the settings, use Check and Apply. Simply viewing the page does not trigger exits.

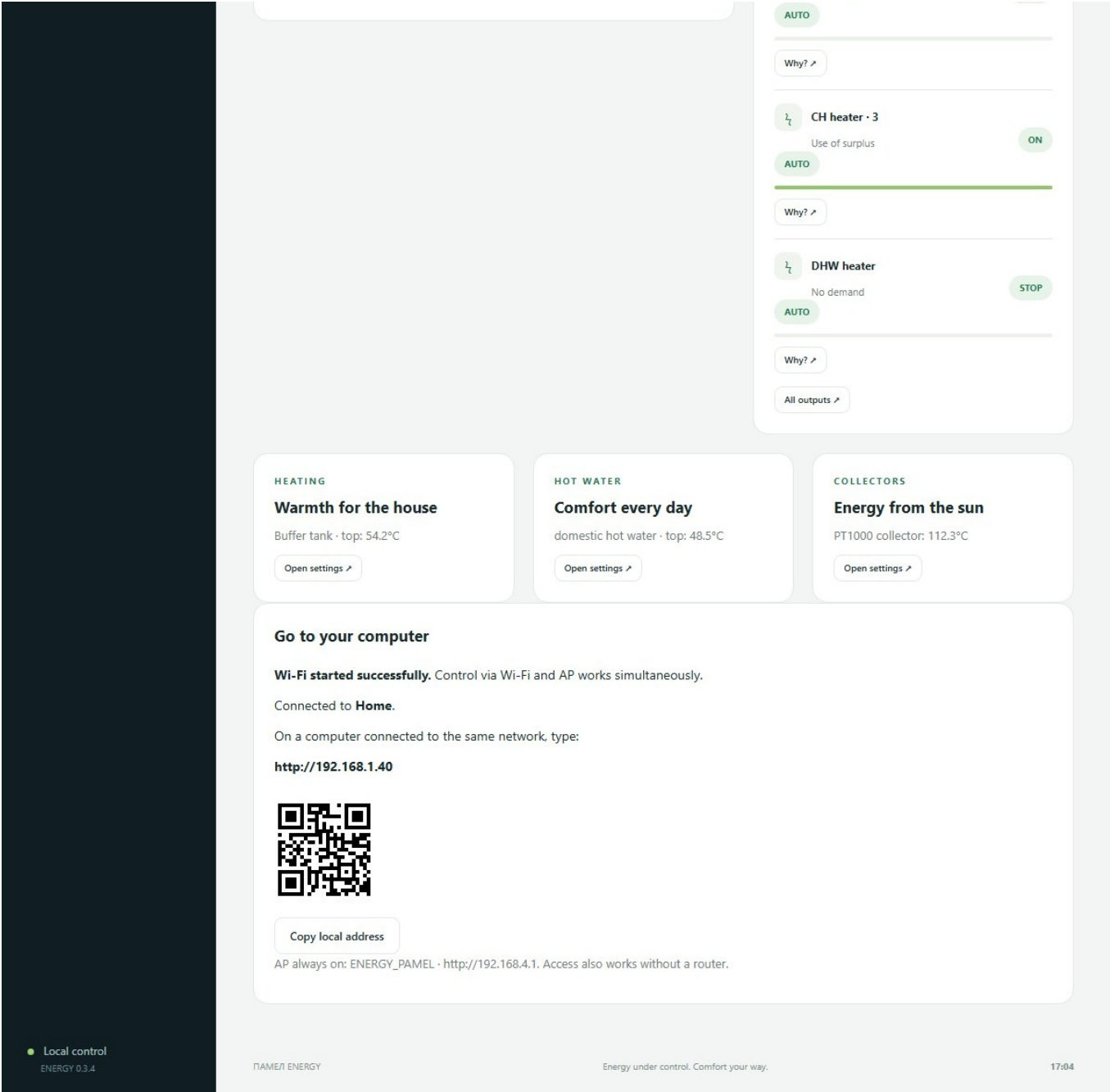
The procedure for selecting the solar probe source can be found in the Solar Probe chapter. Examples of other protection and cooling fields can be found at the end of the atlas.

Web screen Overview (1/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Overview (2/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen CH / buffer tank (1/2)



YOUR HOME. YOUR ENERGY.

Overview

CH / buffer tank

DHW / circulation

Solar collectors

Energy

Schedules

Vacation

Charts

Installation wizard

Installation

System

My home / CH / buffer tank

Wi-Fi  very good

Cloud  online

ALARM

Sensors • 4

⌵

Edit draft - working configuration unchanged

PAMEL ENERGY • DEMO

Warmth tailored to your home

Buffer tank, weather and central heating circuit.

Central heating tank

☐ Enable tank service
Activates the controller after probe assignment.

Heating method
Surplus + minimum comfort
▶ What does this mean?

Surplus heating target [°C]
65

Hysteresis [°C]
2

Number of buffer tank probes
1 - top
▶ What does this mean?

Minimum comfort [°C]
35

Maximum temperature [°C]
80

Replacement temperature without time [°C]
35

Heating regulation

☐ Weather controller

☐ Summer mode

Buffer tank at +10°C outside [°C]
30

Room influence [°C / °C]
3

☐ Room temperature correction

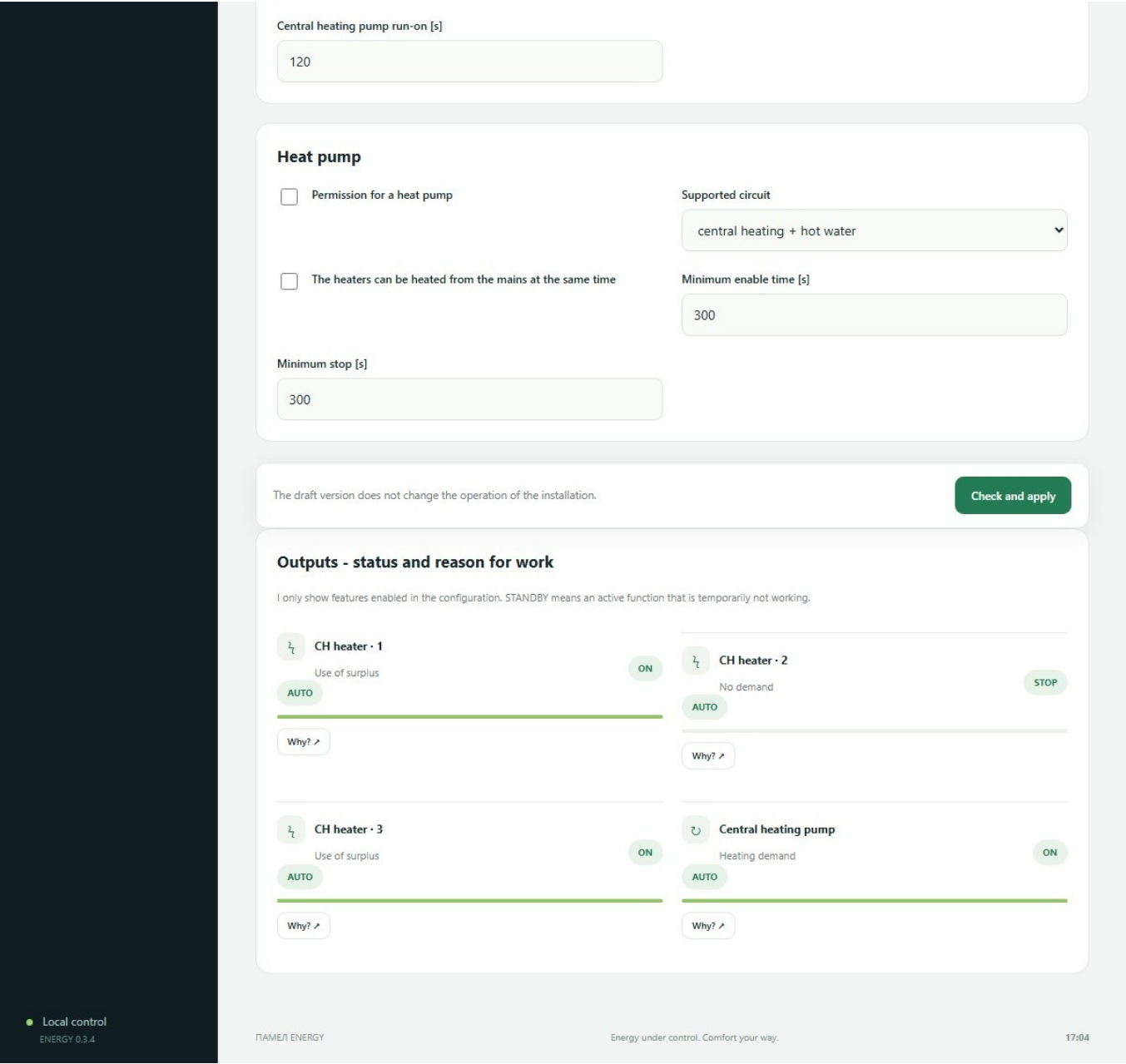
Buffer tank at -10°C outside [°C]
55

Room substitute setpoint [°C]
21

Minimum start temperature of the central heating pump [°C]
30

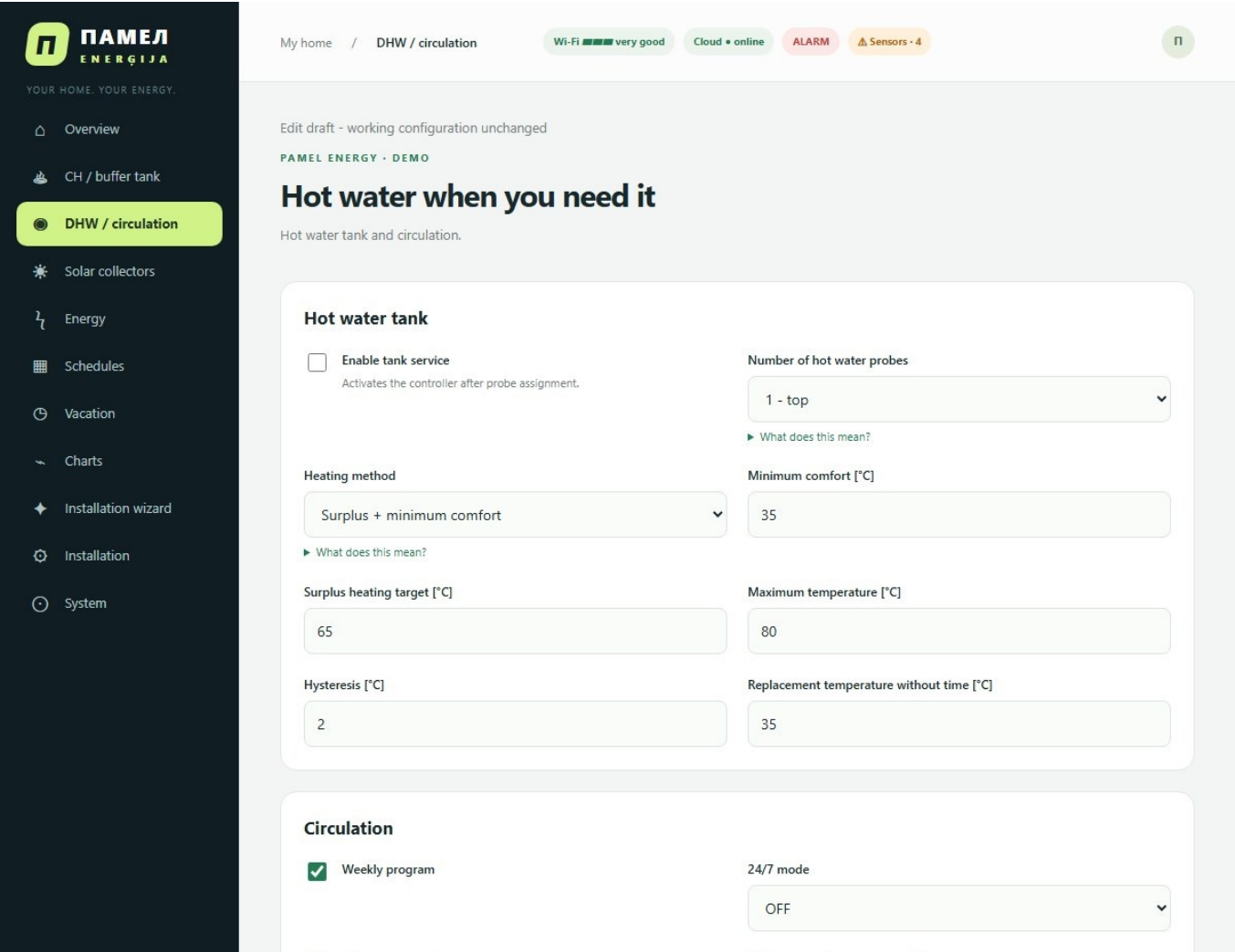
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen CH / buffer tank (2/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen DHW / circulation (1/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen DHW / circulation (2/2)

Local control
ENERGY 0.3.4

Mode without correct time

OFF

Minimum tank temperature [°C]

35

☐ Circulation return probe

Cycle end temperature [°C]

40

TAKT 1 · work [s]

120

TAKT 1 · break [s]

900

TAKT 2 · work [s]

180

TAKT 2 · break [s]

600

TAKT 3 · work [s]

300

TAKT 3 · break [s]

600

The draft version does not change the operation of the installation.

Check and apply

Outputs - status and reason for work

I only show features enabled in the configuration. STANDBY means an active function that is temporarily not working.

⌵

DHW heater

No demand

AUTO

Why? ↗

STOP

↺

Hot water circulation

Hot water arrived at the return

AUTO

Why? ↗

STOP

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

PAMEL ENERGY • working manual 0.2

90

Web screen Energy (1/2)



YOUR HOME. YOUR ENERGY.

Overview

CH / buffer tank

DHW / circulation

Solar collectors

Energy

Schedules

Vacation

Charts

Installation wizard

Installation

System

My home / Energy

Wi-Fi  very good

Cloud  online

ALARM

 Sensors - 4



Edit draft - working configuration unchanged

PAMEL ENERGY • DEMO

PAMEL ENERGY

Your energy rules and connection protection.

Power limiter

No active restriction.

Power limiter

☐ Turn on the guard

Maximum total consumption [W]

10000

Reserve before consumption limit [W]

300

L1 limit [A]

16

L2 limit [A]

16

L3 limit [A]

16

☐ Comfort reheating after loss of energy meter

Your rules for energy

Permissible export [W]

0

Reaction margin before limit [W]

100

► What does this mean?

☒ Adjustment separately for phases

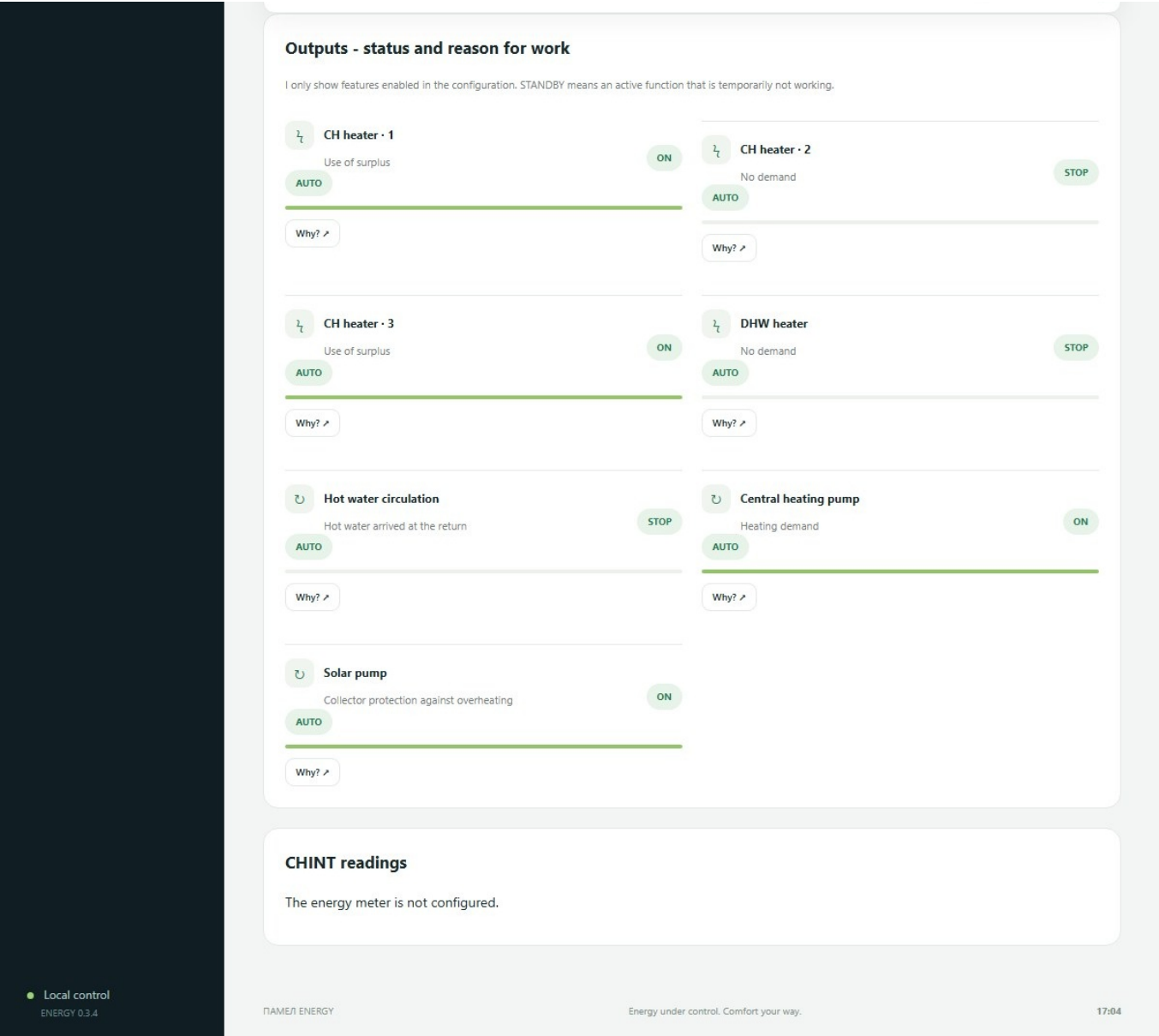
☐ Central heating heaters work together

The draft version does not change the operation of the installation.

Check and apply

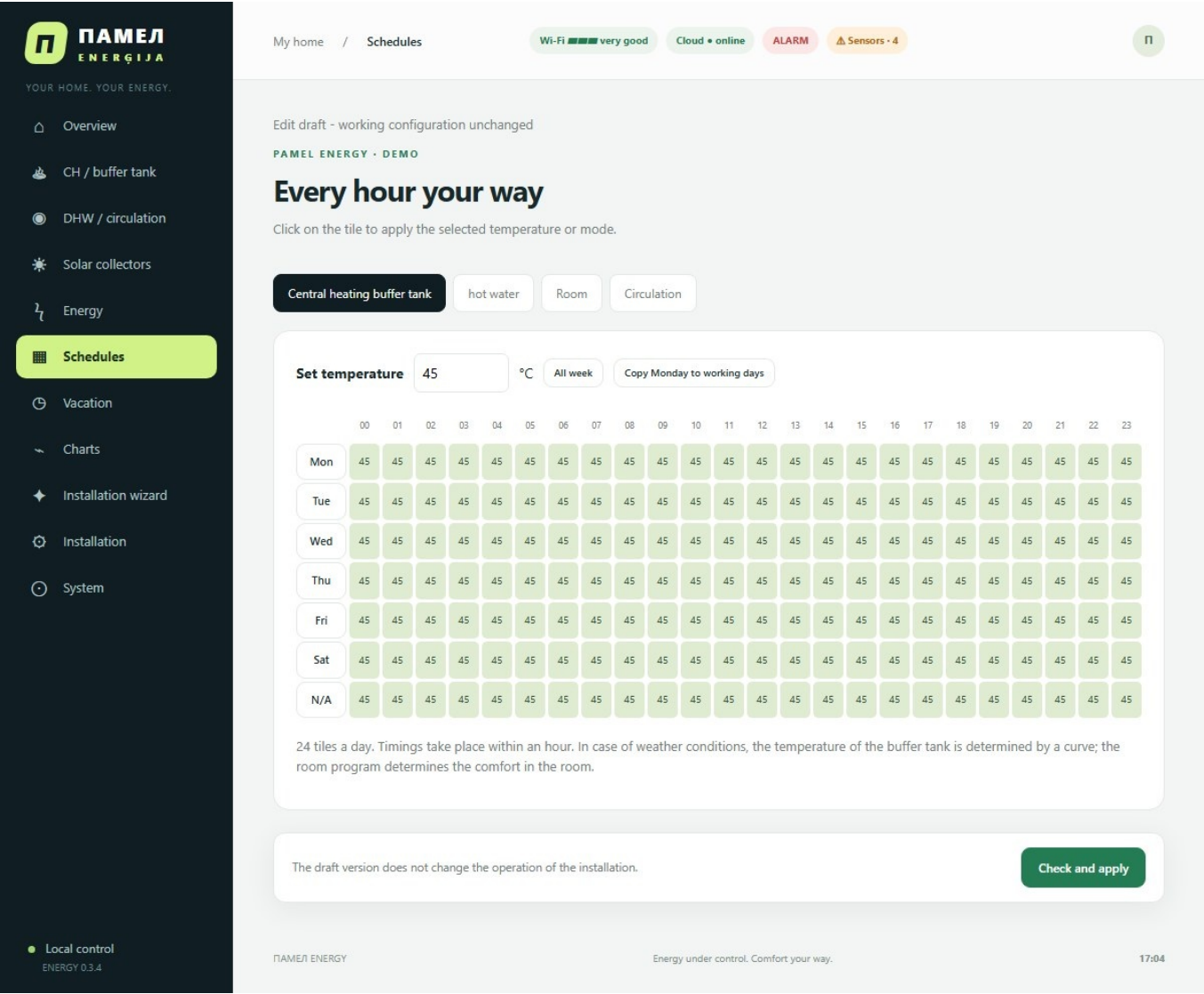
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Energy (2/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Schedules



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Vacation



YOUR HOME. YOUR ENERGY.

Overview

CH / buffer tank

DHW / circulation

Solar collectors

Energy

Schedules

Vacation

Charts

Installation wizard

Installation

System

My home / Vacation

Wi-Fi  very good

Cloud  online

ALARM

Sensors - 4

⌵

Edit draft - working configuration unchanged

PAMEL ENERGY • DEMO

Are you leaving? The house is taken care of.

Vacation replaces schedules and ends automatically.

Vacation date

☐ Activate your vacation on the given date

From - local time

dd.mm.yyyy --:--

Until - local time

dd.mm.yyyy --:--

Comfort while away

Minimum temperature of the buffer tank, central heating [°C]

15

Minimum room temperature [°C]

12

Minimum temperature of domestic hot water [°C]

15

☐ Turn off normal central heating while on holiday

☐ Turn off normal heating, domestic hot water while on vacation

Circulation remains off. Protection of solar collectors and maximum temperatures still works. In "surplus only" mode, reaching the minimum is not guaranteed.

End your vacation now

The draft version does not change the operation of the installation.

Check and apply

Local control

ENERGY 0.3.4

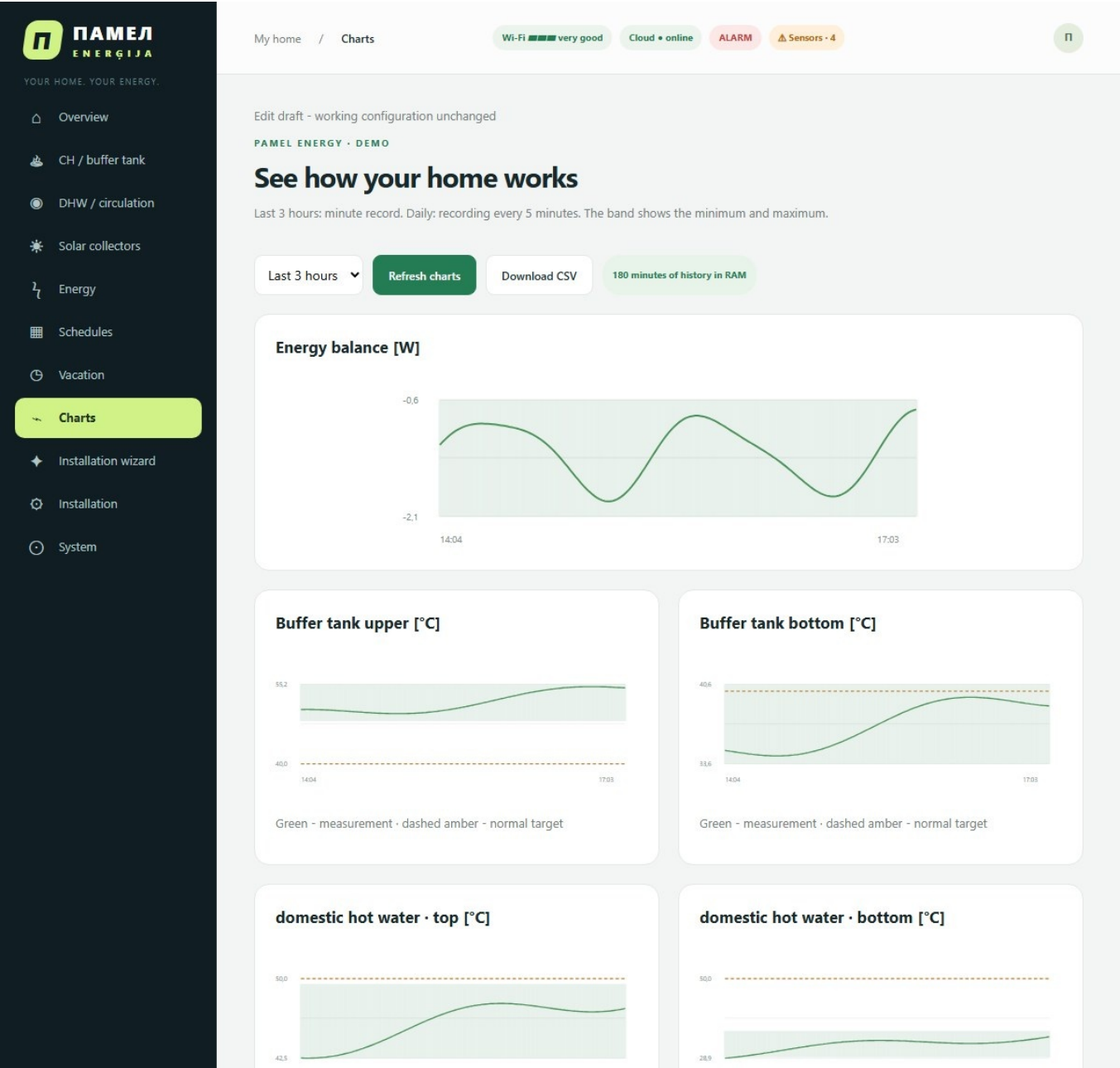
PAMEL ENERGY

Energy under control. Comfort your way.

17:04

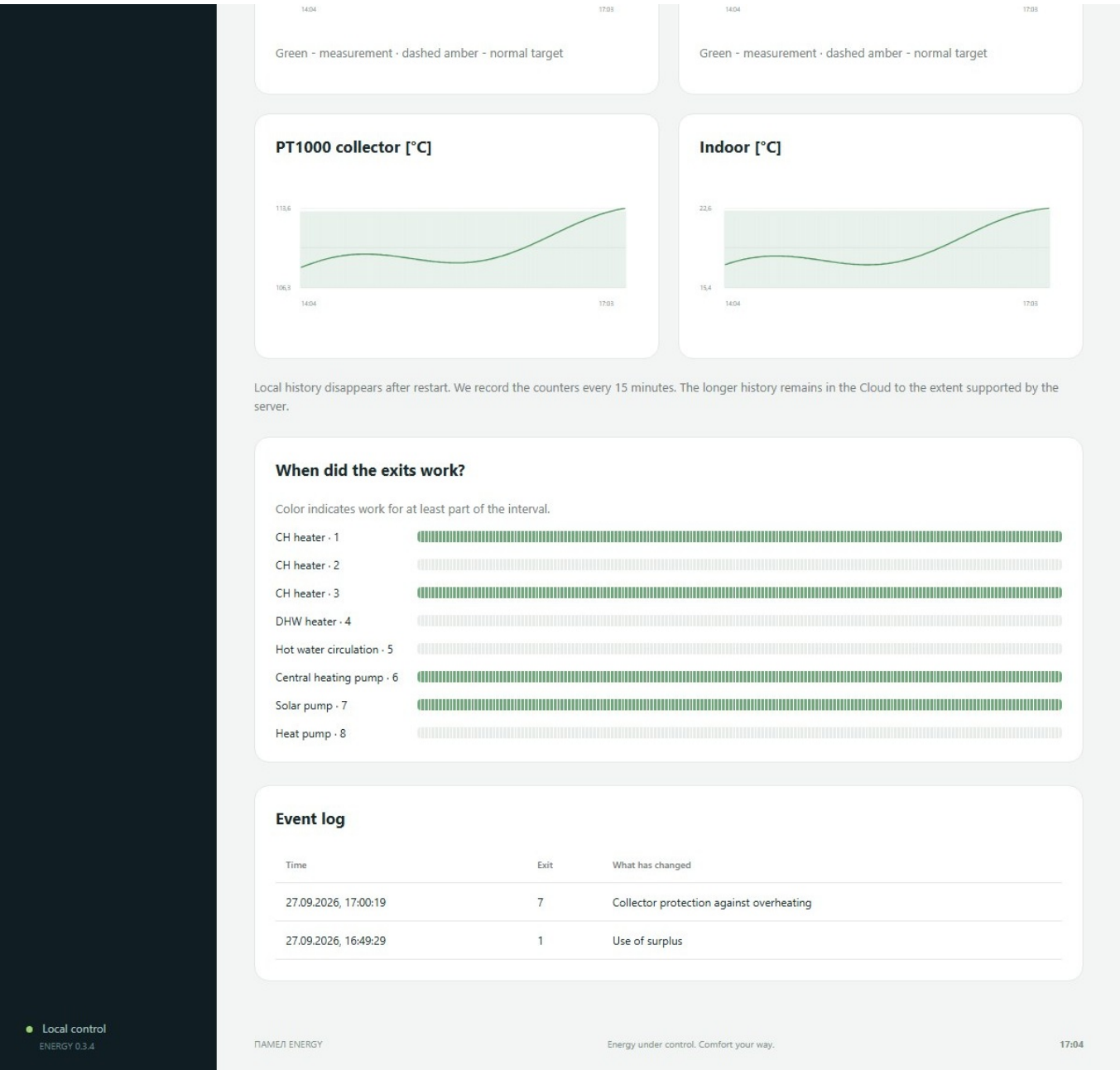
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Charts (1/2)



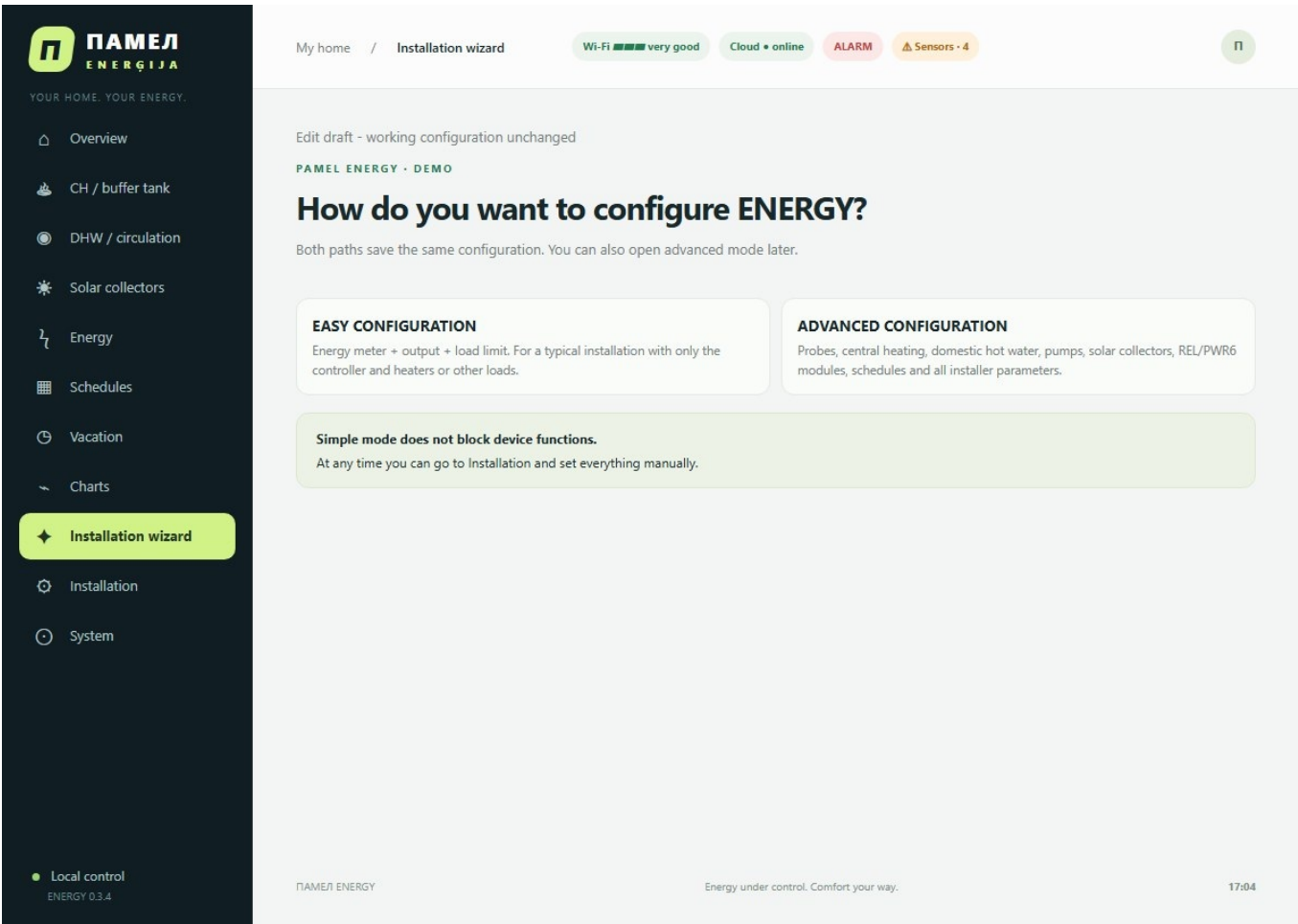
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Charts (2/2)



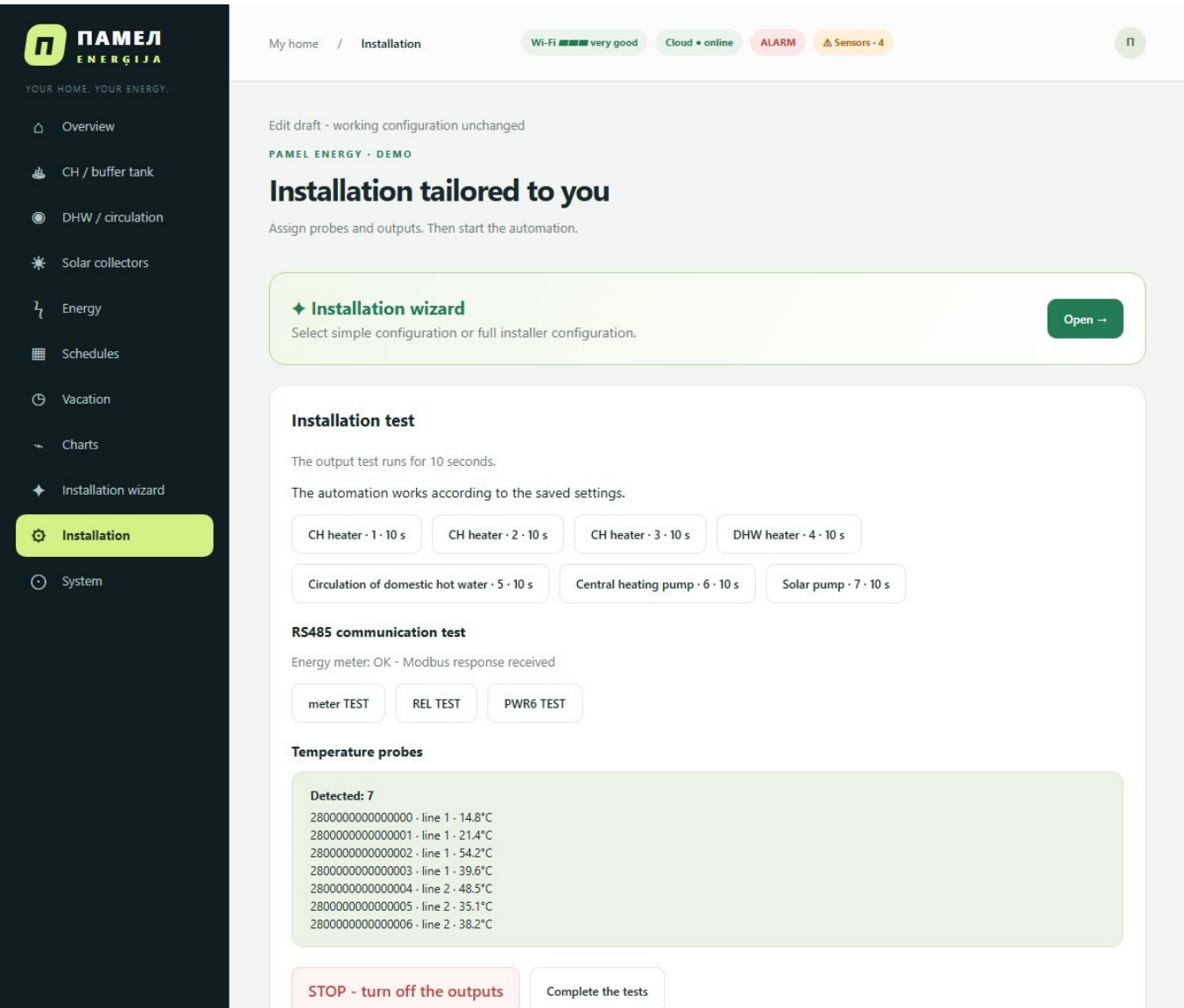
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Wizard selection



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Installation (1/4)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Installation (2/4)

Launch

☒ Installation configured - run the controls

Number of buffer tank probes
1 - top
[▶ What does this mean?](#)

Number of hot water probes
1 - top
[▶ What does this mean?](#)

DS18B20 probes

Assignment by permanent address. Two lines: GPIO4 and GPIO5.

Outside Assigned Reading: 14.8°C	Correction Outdoor [°C] 0
Indoors Assigned Reading: 21.4°C	Correction Indoor [°C] 0
Buffer tank · top Assigned Reading: 54.2°C	Correction Buffer tank upper [°C] 0
Buffer tank · bottom Assigned Reading: 39.6°C	Correction Buffer tank bottom [°C] 0
domestic hot water · top Assigned Reading: 48.5°C	Domestic hot water correction · top [°C] 0

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Installation (3/4)

hot water · down

Unassigned

Reading: 35.1°C

Domestic hot water correction · bottom [°C]

0

Return of circulation

Unassigned

Reading: 38.2°C

Correction Return circulation [°C]

0

Functions and outputs

A lower priority number means priority.

Function	Physical output	Phase	Power [W]	Priority	Min. ON [s]	Min. OFF [s]
Surplus load	Relay 1	L1	2000	1	5	5
Surplus load	Relay 2	L2	2000	2	5	5
Surplus load	Relay 3	L3	2000	3	5	5
Unused	Relay 4	L1	0	4	5	5
Unused	Relay 5	L2	0	5	5	5
Unused	Relay 6	L3	0	6	5	5
Unused	REL · 1	L1	0	7	5	5
Unused	REL · 2	L2	0	8	5	5
Unused	SSR · 1	L3	0	9	5	5
Unused	SSR · 2	L1	0	10	5	5
Unused	SSR · 3	L2	0	11	5	5

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Installation (4/4)

Local control
ENERGY 03.4

Unused	SSR - 4	L3	0	12	5	5
Unused	SSR - 5	L1	0	13	5	5
Unused	SSR - 6	L2	0	14	5	5

Energy meter model

Select an energy meter

CHINT DTSU666 · 3F · 5(80)A direct

What does this mean?

The energy meter will be active after the settings are applied. For the 1F energy meter, assign the loads to L1.

RS485 bus

☐ REL relay module

☐ SSR PWR6 module

Energy meter address

1

REL module address

20

Address of the SSR module

21

RS485 speed [bit/s]

9600

Parity

No 8N1

☐ Reverse the power sign

The draft version does not change the operation of the installation.

Check and apply

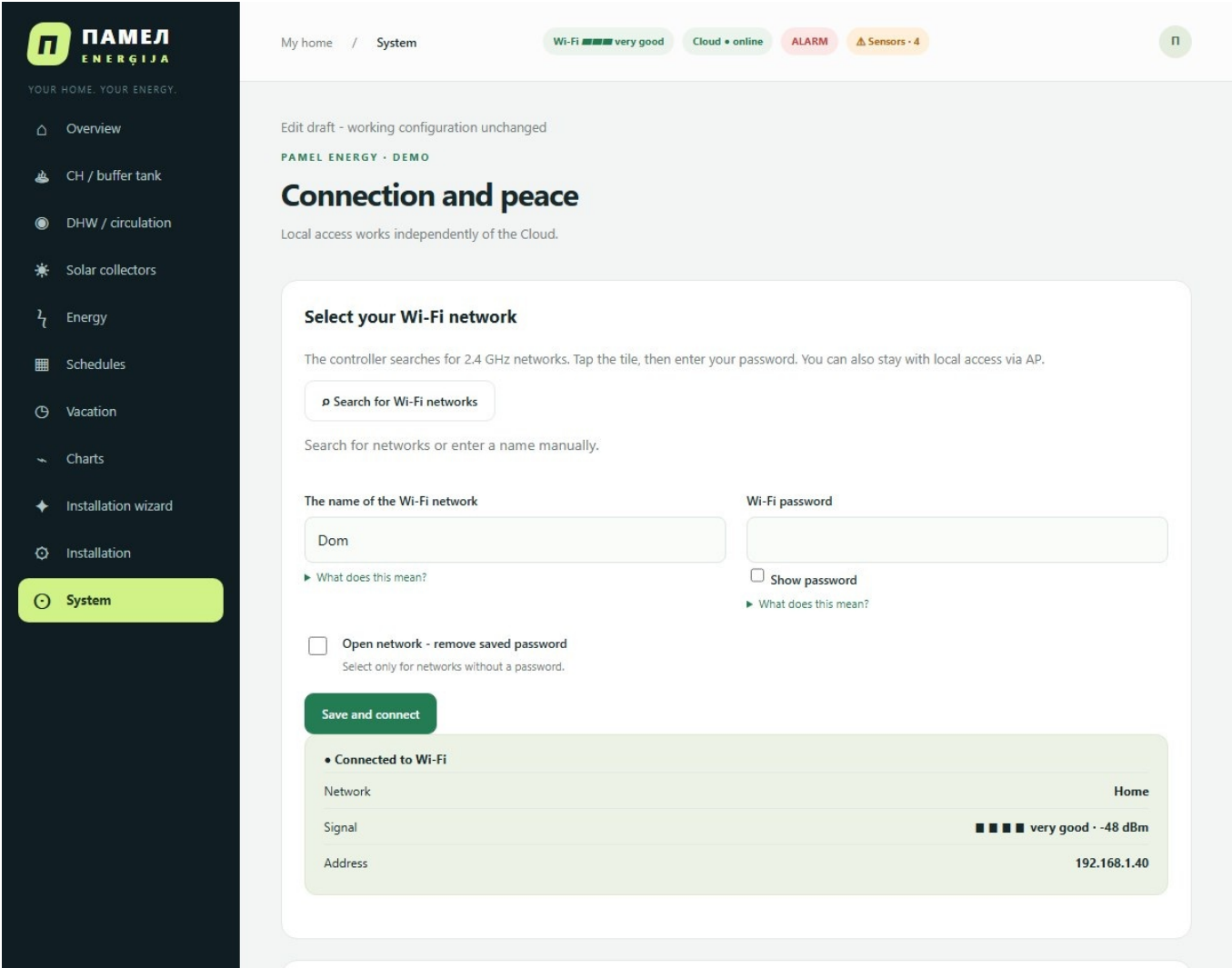
PAMEL ENERGY

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17:04

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen System (1/4)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen System (2/4)

Constant access via AP

The AP remains on even after connecting to the router. Set recognizable names for several modules, e.g. ENERGY_BOILER ROOM and ENERGY_GARAZ.

AP network name

ENERGY_PAMEL

► What does this mean?

Save AP settings

AP IP address

192.168.4.1

► What does this mean?

Program update

Updates from the PAMEL server. The settings are saved. During installation, the outputs will be disabled and the controller will restart.

Version 0.3.4

Check for update

Install

Service access

ENERGY_PAMEL • http://192.168.4.1

Hold IN1 (GPIO6 to GND) for 3 seconds. Restores the name ENERGY_PAMEL and the address 192.168.4.1 for reboot and opens a 15-minute window to regain access. Does not erase settings.

New panel password

☐ Show password

► What does this mean?

☐ No panel password

Disables logging also if a password has been previously set.

Repeat your new password

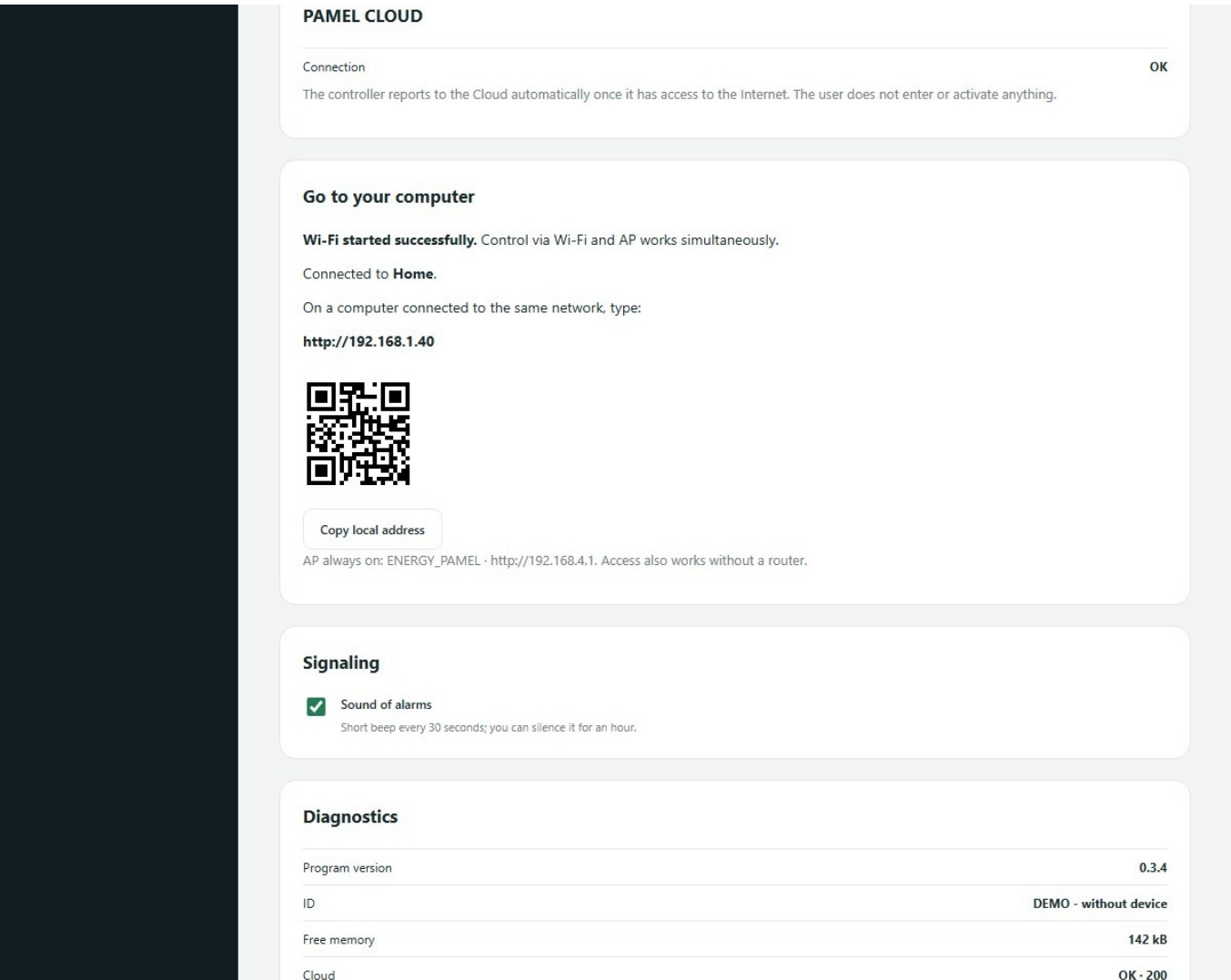
☐ Show password

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

PAMEL ENERGY • working manual 0.2

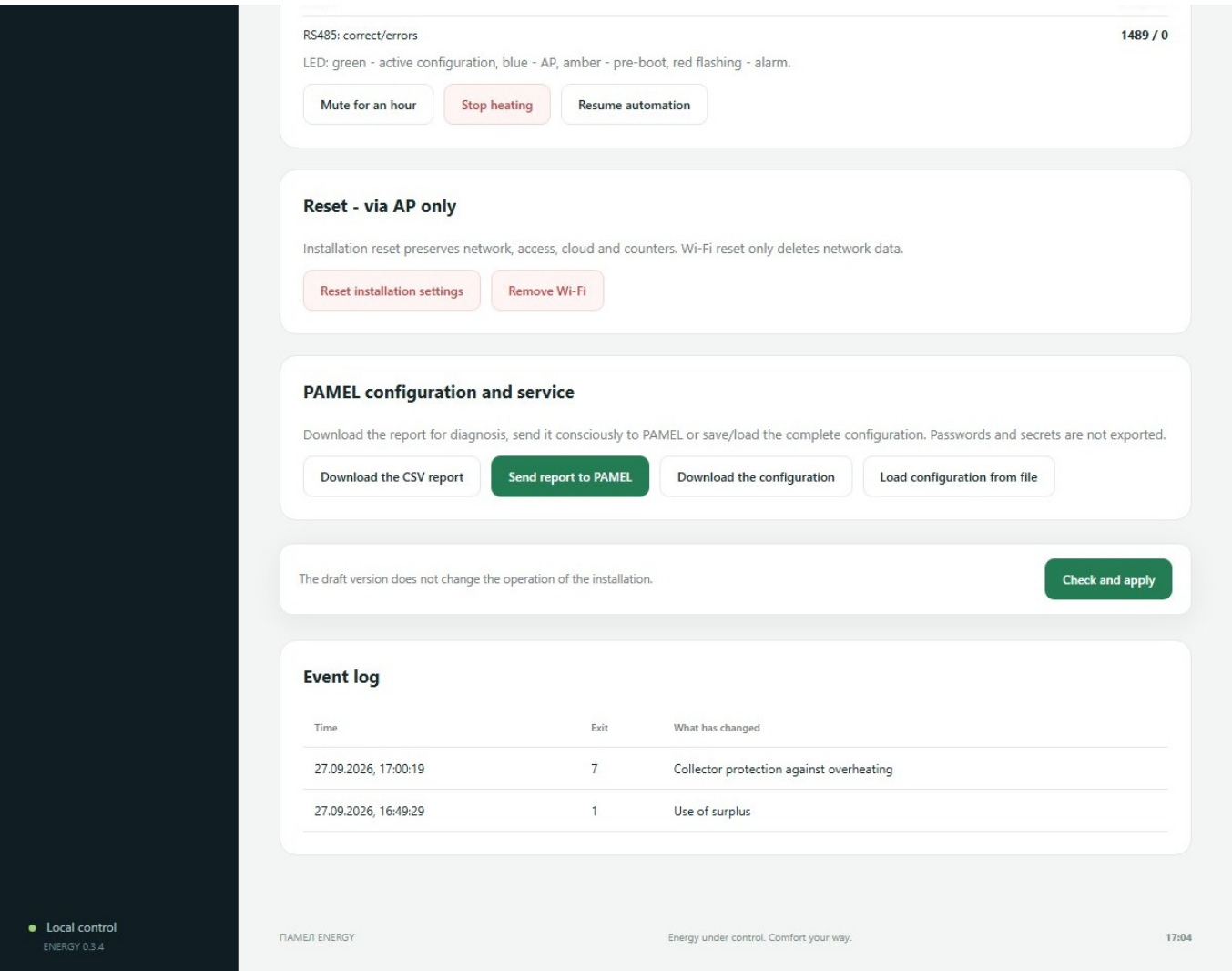
103

Web screen System (3/4)



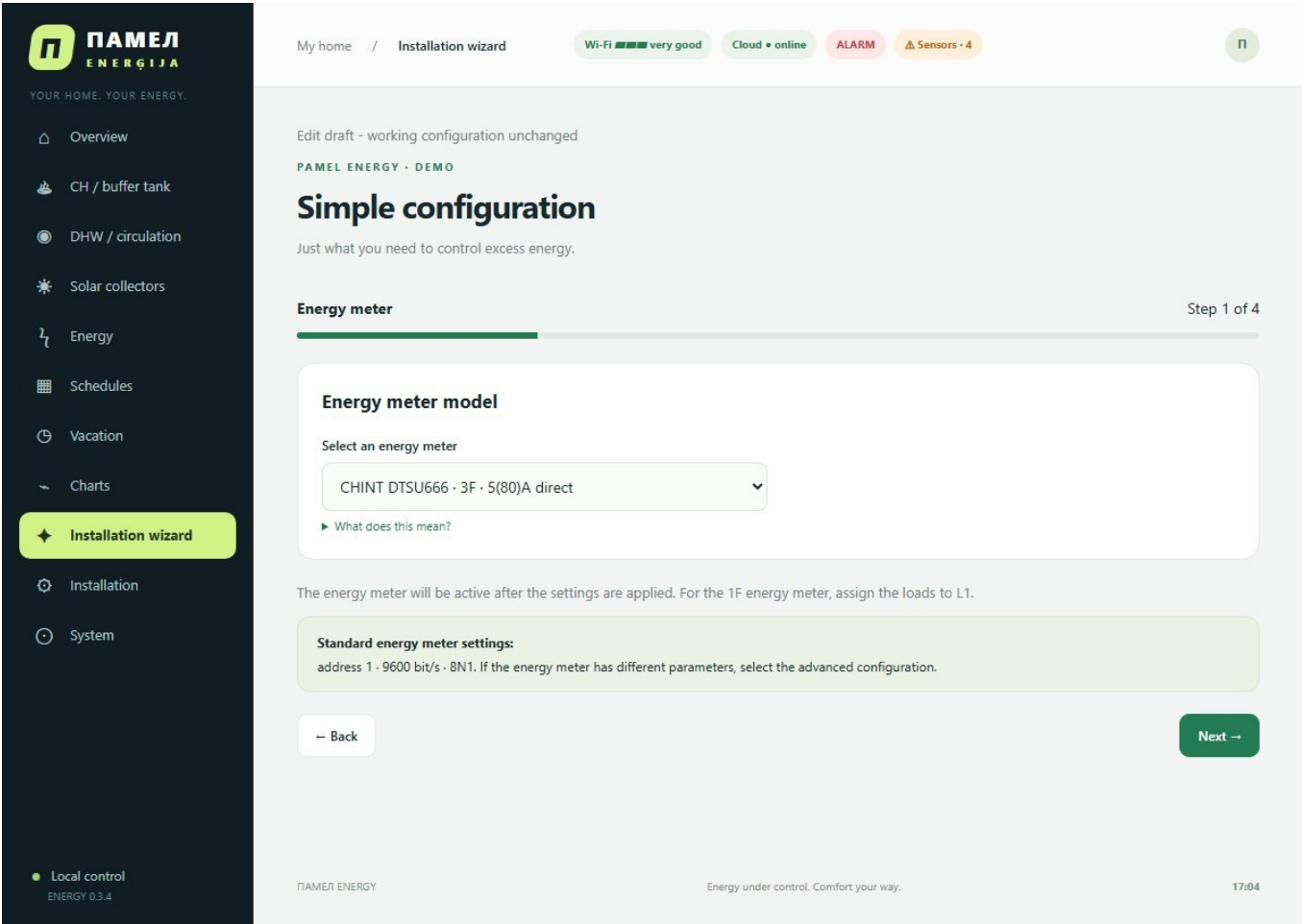
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen System (4/4)



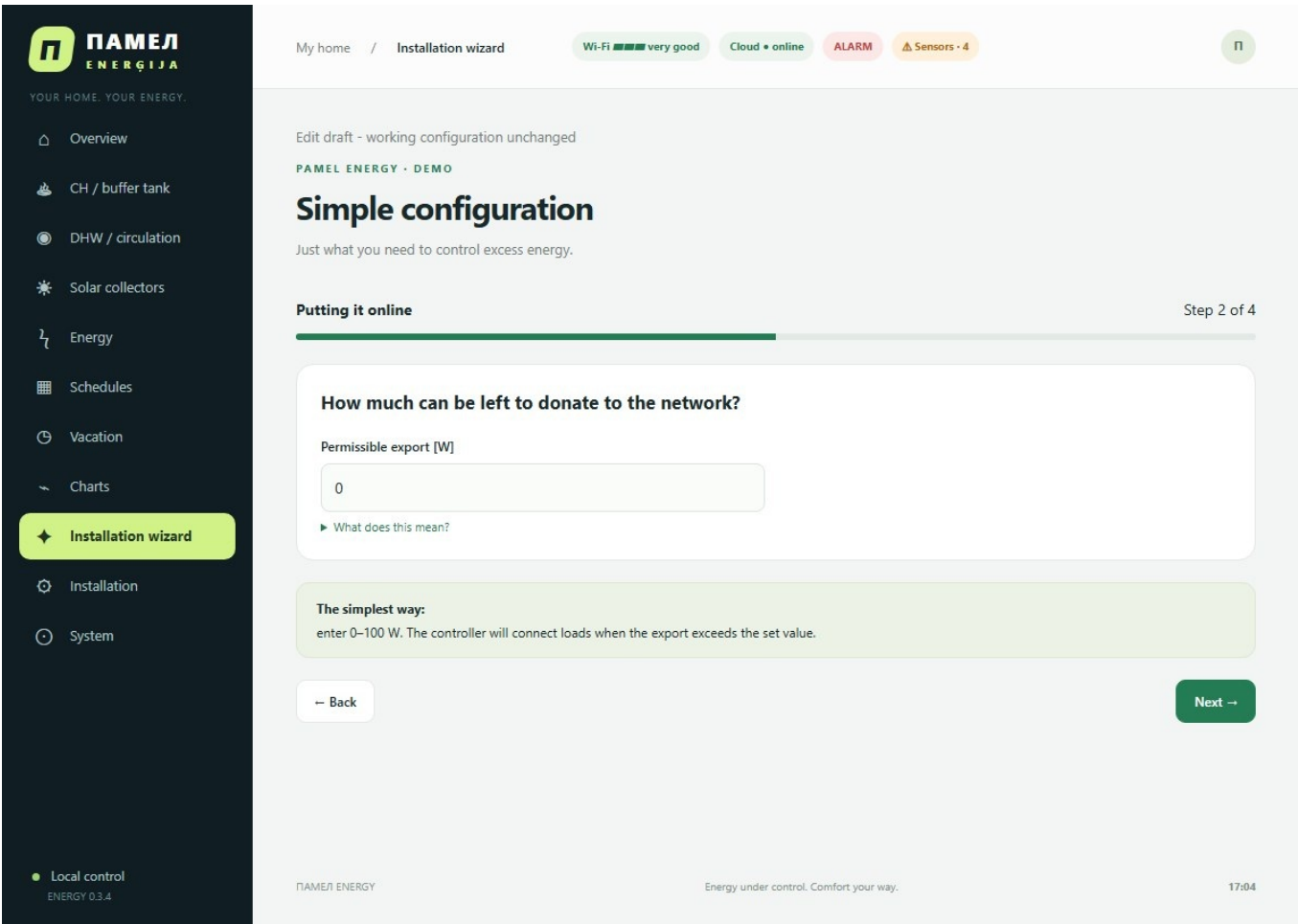
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen A simple wizard - energy meter



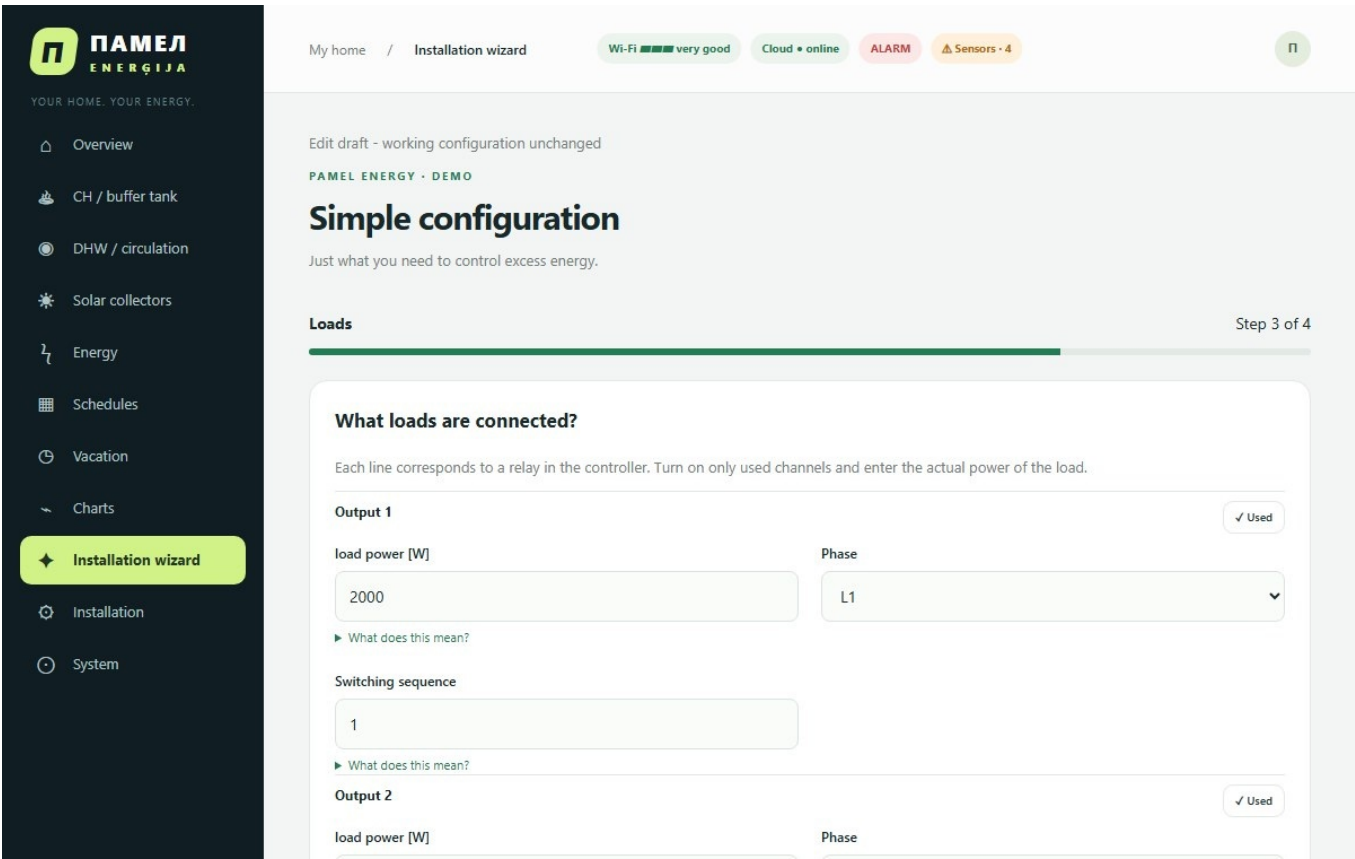
Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Simple wizard - export



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Simple wizard - loads (1/2)



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Simple wizard - loads (2/2)

Local control
ENERGY 0.3.4

2000

What does this mean?

Switching sequence

2

What does this mean?

Output 3

load power [W]

2000

What does this mean?

Phase

L3

What does this mean?

Switching sequence

3

What does this mean?

Output 4

I don't use it

Output 5

I don't use it

Output 6

I don't use it

Simple mode supports six local outputs. REL and PWR6 modules are configured in advanced mode.

Back

Next

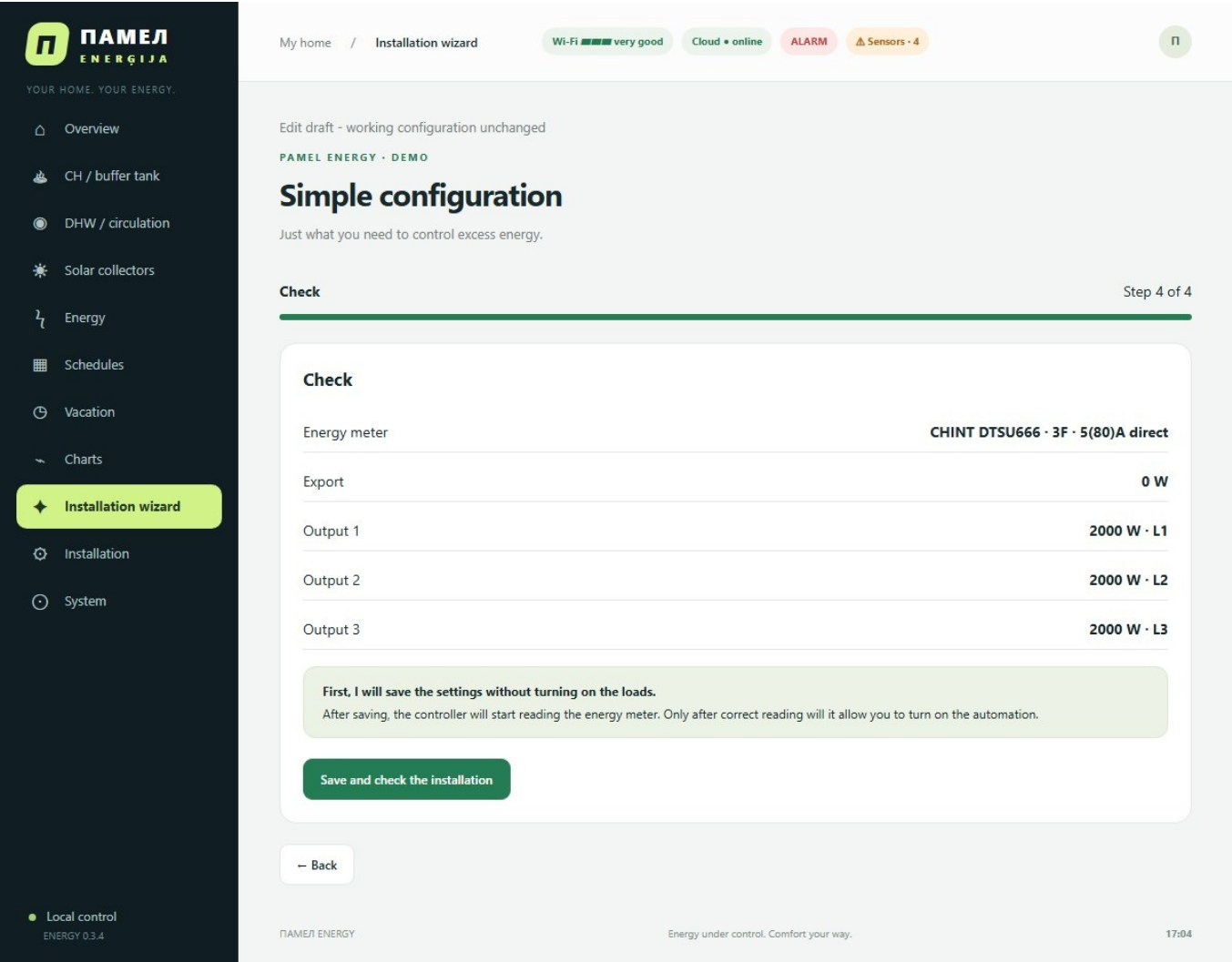
PAMEL ENERGY

Energy under control. Comfort your way.

17:04

Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

Web screen Simple wizard - check



Panel view with sample data. The temperatures, powers and addresses in the illustration are not recommended settings for every installation.

WWW screen Protection and cooling of solar collectors

Collector protection

Start of protective charge [°C]	Protective tank charging limit [°C]
110	75
► What does this mean?	► What does this mean?
Pump blockage at high temperature [°C]	Resumption after blockage [°C]
125	115
► What does this mean?	

Night unloading

☐ Allow the tank to cool at night	Window start [hours 0–23]
	22
End of window [hours 0–23]	Target temperature after discharge [°C]
6	40
	► What does this mean?

Protection and night cooling fields. Select values for the probe, fluid and installation. Maximum temperature setting of solar collectors: 125°C.

Installation settings tab

The installer can save the reception parameters here. Store a copy of the JSON configuration separately.

Position	Determination
Energy meter model and current transformer ratio	
Address/speed/parity	
The role and output of each heater	
Powers and phases of loads	
Assigned probes and measurement locations	
Targets and maximum temperatures	
Import limit and phase limits	
Local panel address/AP name	
Security inspection date	

Do not write down your Wi-Fi password or panel password here. Store your access data in a safe place.

Installer notes

Place for a description of the system, changes in settings and inspection dates.

Date	Change or observation

Installer notes

Place for a description of the system, changes in settings and inspection dates.

Date	Change or observation

Warranty conditions

The PAMEL company provides a warranty for the controller (without additional equipment) in the Republic of Poland for a maximum period of 60 months: 24 months of basic warranty, 6 months of extended manufacturer's warranty, additionally it is possible to purchase an extension of the warranty to 40 or 50 months.

The total warranty period cannot exceed 80 months from the date of device production.

Additional equipment (e.g. probes, heaters) is covered by a standard warranty under the Civil Code.

The purchased warranty extension is confirmed by a hologram sticker on the warranty card.

The warranty does not cover consumables and accessories intended for self-assembly (e.g. antennas, sensors, handles, heaters, cables, batteries).

During the warranty period, the manufacturer undertakes to remove physical defects free of charge.

If at least four repairs have been made under the basic warranty and the device is still defective, the Buyer has the right to exchange it for a new unit with equivalent parameters or to a refund.

The warranty period is extended by the duration of the repair.

Complaints should be submitted by e-mail (pamel@pamel.pl) or by phone. The manufacturer will first try to solve the problem remotely and indicate further complaint steps.

At the manufacturer's request, the Buyer is obliged to complete a complaint protocol.

The warranty only covers defects resulting from reasons inherent in the device.

The warranty does not cover damage resulting from: improper installation, operation or maintenance, storage in inappropriate conditions, use of inappropriate consumables, independent repairs or modifications, mechanical damage, flooding, water vapor condensation, pollution, atmospheric phenomena, random events, exceeding the rated parameters.

The warranty does not cover claims regarding the technical parameters of the device, as long as they are consistent with the manufacturer's data.

The condition for maintaining warranty rights is to deliver the device: complete, in packaging protecting against damage, with documentation, cables and additional elements, without removed or broken seals and stickers, with the original warranty card signed by both parties and a sticker with the production date.

The warranty does not cover services and materials related to normal operation (e.g. installation, programming, cleaning, maintenance, replacement of fuses and light bulbs). These services are paid.

Warranty conditions (2)

The service center may refuse to perform warranty repairs in the event of: inconsistency of data in the documentation with the actual condition of the device, unauthorized corrections in the documents, removal of device identification marks (e.g. stickers).

Warranty repairs are performed within 21 days from the date of delivery of the device to the service center.

If it is necessary to import parts from abroad, this deadline may be extended - the Buyer will be informed about this by e-mail.

The device must be installed in accordance with the standards and operating instructions. If required by law, installation must be carried out by a person with appropriate authorizations.

The scope of the rights and obligations of the parties is governed exclusively by this document.

Equipment not collected from the service center within 3 months from the completion of the repair becomes the property of the service center.

Parts replaced during repair remain the property of the manufacturer. The manufacturer is not responsible for the loss of user data stored in the device. After repair, the device is returned with its factory settings restored.

By signing the warranty card, the buyer confirms that he or she has read the warranty terms and accepts them.

A card without a signature and without the original sticker with the production date is invalid.

Note: The number of repairs does not include maintenance, cleaning, replacement of light bulbs, fuses, wearing parts or repairs resulting from natural wear and tear (e.g. potentiometers).

START DATE OF THE WARRANTY PERIOD	SELLER'S STAMP	CUSTOMER'S SIGNATURE