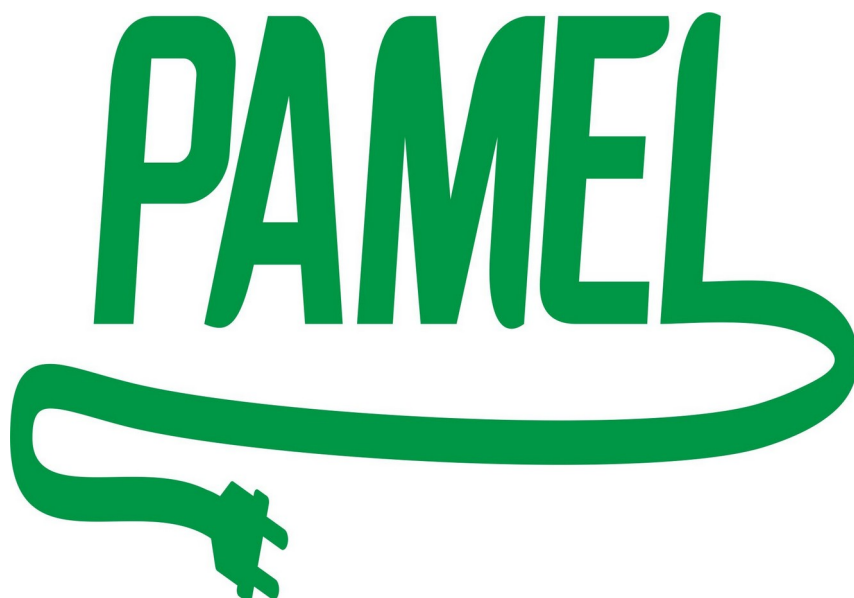
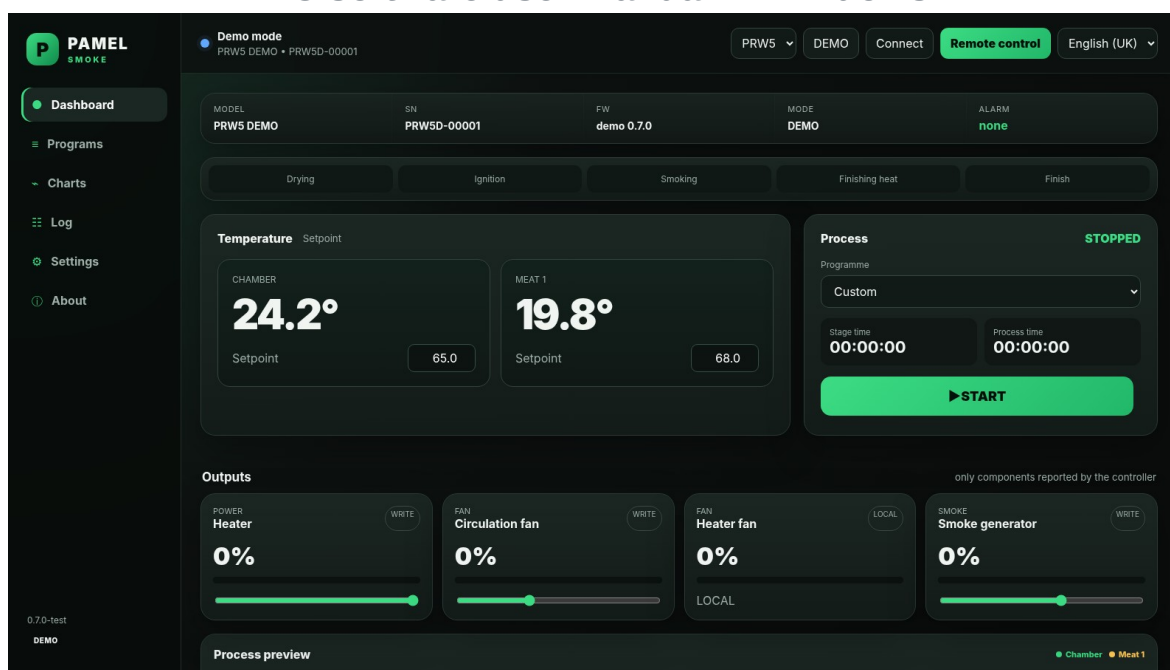




PROGRAM FOR MANAGING
SMOKING PROCESSES

PAMEL SMOKE

PC software user manual • Windows



REQUIRED: PRM / PRD3 / PRD4 / PRW WITH USB

The controller must have compatible firmware. The model name on enclosure alone is not enough.



CENTRUM PAMEL

serwer.pamel.pl

MANUAL IDENTIFICATION
PAMEL_SMOKE_MAN_EN
version 1.0
2026-09-06

Instrukcje, pomoc i aktualizacje

. CONTENTS AND KEY INFORMATION

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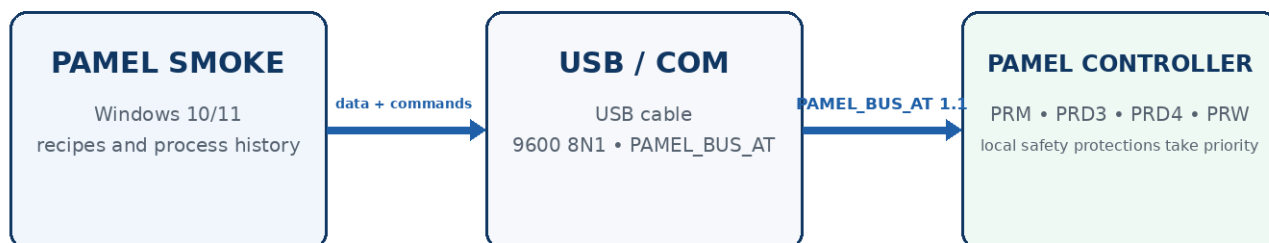
MOST IMPORTANT

PAMEL SMOKE works only with a compatible PAMEL controller equipped with USB/COM. The software automatically identifies the model, SN and firmware. No USB or firmware that is too old means no connection.

MONITOR is for viewing only and does not take control. REMOTE allows the software to run the process, but only when the controller reports the required capabilities and a licence is active for its SN.

1. OPERATING PRINCIPLE

CONNECTION PRINCIPLE



No USB or firmware too old = no PAMEL SMOKE operation.

PAMEL SMOKE runs on a Windows computer and communicates with a PAMEL controller through USB/COM. The connection uses the PAMEL_BUS_AT protocol. The software does not identify a device only by its COM port number - it sends a HELLO request and checks the controller response: model, SN, firmware version and available functions.

- The controller remains the executing device and retains its own local safety protections.
- The software can read temperatures, output states, alarms and the current process stage.
- In REMOTE mode, the software sends setpoints and commands only to fields that the controller marks as writable.
- Loss of communication in REMOTE causes the controller to stop safely; the process does not restart automatically.

NOTICE

PAMEL SMOKE does not replace the controller's local STOP, alarms, probe monitoring or safety limits.

2. INTENDED USE AND SAFETY

THREE OPERATING MODES

DEMO

- no controller connected
- practise the interface
- no commands to the device
- simulated data

MONITOR

- automatic USB connection
- read temperatures and outputs
- no takeover of control
- works without REMOTE licence

REMOTE

- requires compatible firmware
- requires an active licence
- PC runs programme stages
- KEEPALIVE every 5 s • SAFE STOP

When to use each mode

- DEMO - for learning the software without a connected controller. All values are simulated.
- MONITOR - for observing the real process without taking control. Reading temperatures and outputs works without a REMOTE licence.
- REMOTE - for running a smoking program from the computer. It requires compatible firmware, an active licence for the controller SN and confirmed takeover of control.

WARNING

Do not leave the installation unattended just because the process is being run from a computer. Failure of the computer, USB cable or PC power supply must not be treated as a process safety device.

The controller has priority for local STOP, alarms, probe faults and safety limits. PAMEL SMOKE shows the actual state only after confirmation from the controller - the interface does not pretend that an output has switched on merely because a command was sent.

3. REQUIREMENTS AND CONTROLLER COMPATIBILITY

USB INTERFACE REQUIRED

The controller must have a physical USB/COM connection. If a particular unit has no USB, contact PAMEL about the possibility of retrofitting it. Simply owning a PRM, PRD3, PRD4 or PRW model does not guarantee compatibility.

Model	Minimum version / requirement	Compatibility scope
PRM	0.5.7 or later	Full REMOTE: PAMEL_BUS_AT 1.1, SN, 30 s timeout. Older version 0.5.5 does not provide the full PAMEL SMOKE contract.
PRD3	0.3.0-dev9 or later	Connection and MONITOR. REMOTE is available only with firmware reporting REMOTE_SUPERVISOR Y and WRITE permissions.
PRD4	USB + PAMEL_BUS_AT 1.1	The software supports PRD4 only when the firmware reports the required fields and REMOTE capabilities. Older hardware without USB is incompatible.
PRW	0.7.3 or later	Connection/ PAMEL_BUS_AT. Current production version 0.8.3 supports PAMEL_BUS_AT 1.1; REMOTE requires firmware reporting REMOTE_SUPERVISOR Y/WRITE.

Computer requirements

- Windows 10 or Windows 11.
- A free USB port and the correct cable for the controller version.
- Permission to install software.
- Internet access for the first licence activation and when checking for updates; after activation, the software can work offline.

TIP

After connecting, check the MODEL, SN and FW fields on the Dashboard. If Remote control is inactive, the reason may be a missing licence or firmware without REMOTE support.

4. INSTALLATION AND FIRST START

1. Download the current PAMEL SMOKE installer from PAMEL Centre or from materials provided by PAMEL.
2. Run the installer and accept the standard installation. The installer creates a PAMEL SMOKE shortcut.
3. Connect the controller to power and start it normally.
4. Connect the controller to the computer with a USB cable.
5. Start PAMEL SMOKE. The software begins automatic scanning of COM ports.
6. If one compatible controller is detected, the connection is made automatically. If several compatible devices are found, select the correct one from the list.
7. After a successful connection, check the model, SN and FW. The software switches to **MONITOR**.

DO NOT MEMORISE THE PORT NUMBER

PAMEL SMOKE identifies the controller from the PAMEL_BUS_AT response.

The COM number may change when the cable is moved to another USB socket.

When the software starts in DEMO

DEMO means that the software currently has no active connection to a compatible controller. You can view screens and recipes, but the data are simulated. Connect USB and use the Connect button, or go to Settings and select Scan ports.

NOTICE

PAMEL SMOKE does not update controller firmware. If a newer controller version is required, update it separately according to the manual for that model.

5. USB CONNECTION AND LICENCE

Automatic detection

The software bridge reads the list of COM ports in Windows and checks them one by one at the basic rate of 9600 bit/s, 8N1. On each port it sends HELLO and waits for DEVICE_INFO. After a valid response it reads the model, permanent PAMEL SN, firmware and device capabilities.

Licence

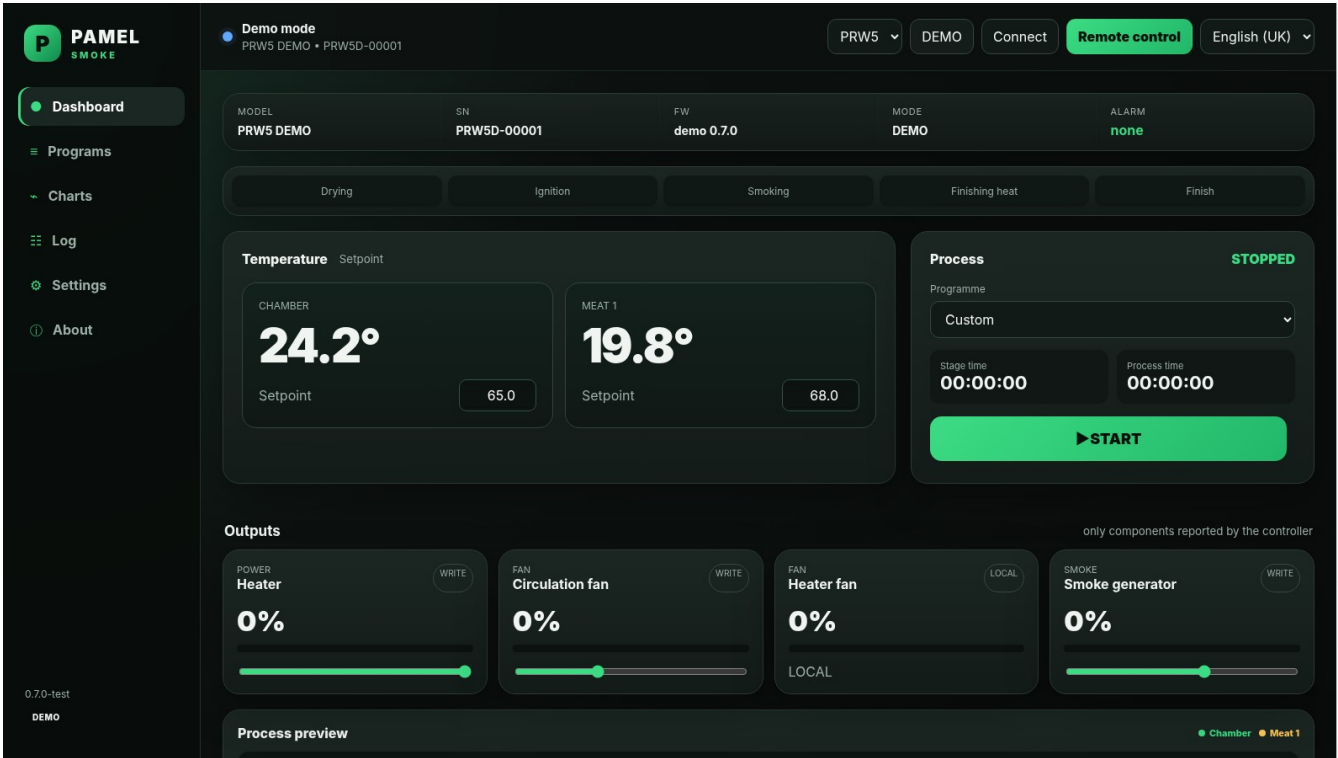
- MONITOR works without a licence - the real controller data can be viewed.
- REMOTE, START and writing settings to the controller require a valid entitlement for the PAMEL_SMOKE + controller SN pair.
- The customer does not enter a licence key. The software downloads a signed certificate for the detected SN.
- After the certificate has been downloaded, the entitlement for that controller works offline and is not tied to a particular computer.
- Updating PAMEL SMOKE itself does not require a new entitlement for the same controller.

IF "REMOTE CONTROL" IS GREYED OUT

Check: 1) whether the controller is connected, 2) whether its firmware supports REMOTE, 3) whether the SN was read, 4) whether the licence for that SN is active.

Only after these conditions are met does the Remote control button send a request to take over control. A USB connection alone does not start the process or change outputs.

6. DASHBOARD - MAIN SCREEN



Dashboard screen - graphical representation based on the current PAMEL SMOKE version.

Element	Meaning
Left sidebar	Dashboard, Programs, Charts, Event log, Settings and Information.
Top bar	Connection status, model/SN/COM, DEMO, Connect/Disconnect, Remote control and language.
Device bar	Model, SN, FW, mode and alarm status.
Stage bar	Active stages only. Stages with a time of 0 min are hidden.
Dashboard	Temperatures, process, actual outputs and quick chart.

GREEN DOT

Indicates an active connection. The mode name beside the temperature and process sections tells you whether you are working in MONITOR or REMOTE.

7. DASHBOARD - TEMPERATURES, PROCESS AND OUTPUTS

Temperatures

The first two probes are shown as large tiles. Additional probes appear below. The current value comes from the controller. The Setpoint field has a 0.5°C step and is active only when the controller allows writing and the software is working in REMOTE.

Process

- Program - selects a recipe stored on the PC. During an active process, changing the program is blocked.
- Stage time and Process time - counted by the software in REMOTE; shown in MONITOR only when the controller provides the corresponding counters.
- START/STOP - visible only in DEMO or REMOTE.
- Next stage - manual transition to the next active stage.

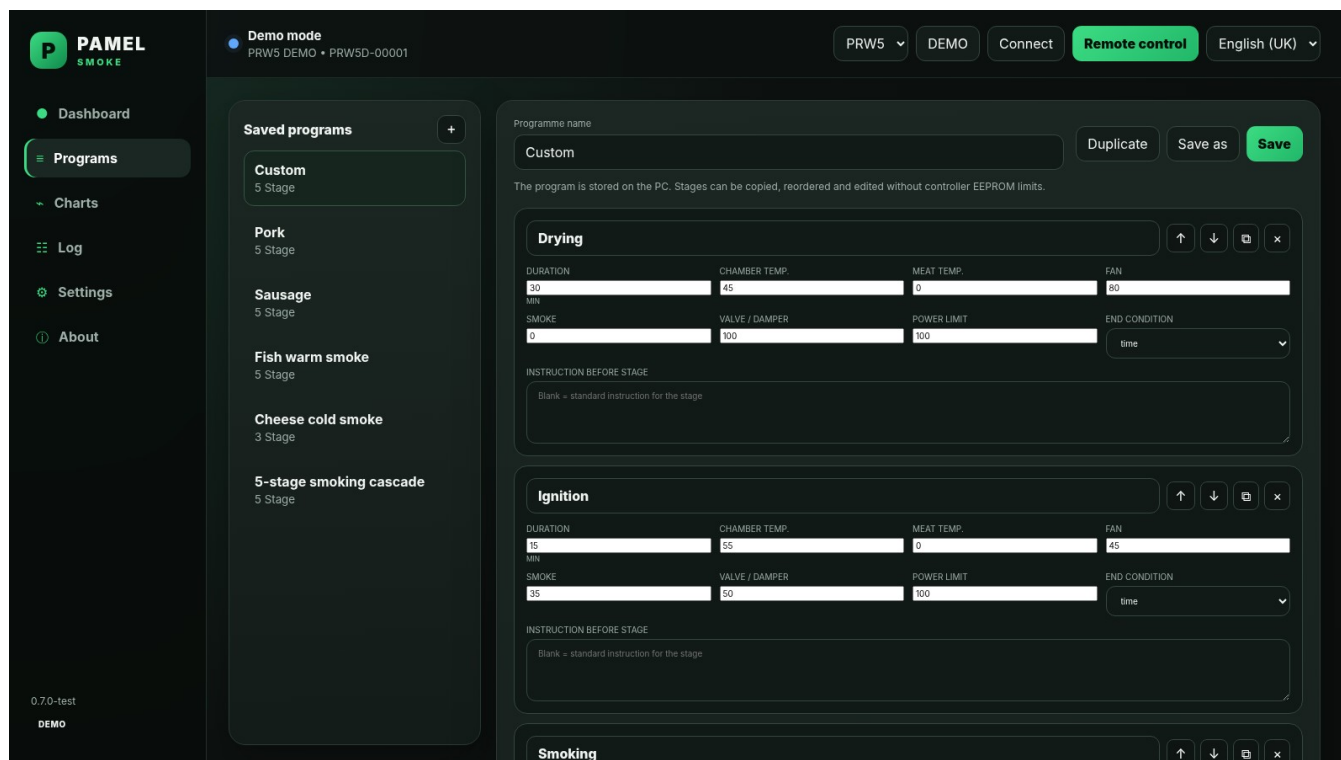
Outputs

The software shows only elements actually reported by the controller. A tile contains the output type, assigned role, current value and READ / WRITE / LOCAL status. The slider has a 0...100% range and 1% step, but appears only for a channel writable in REMOTE.

ACTUAL STATE ≠ COMMAND

After the slider is changed, the software waits for a new state from the controller. If a local safety function limits the output, the Dashboard shows the value actually executed, not the value requested by the PC.

8. PROGRAMS



Programs screen - recipe list and stage editing.

Recipes are stored on the computer, so the number of programs and stages is not limited by the controller EEPROM. A program can be prepared without a connected controller and then run in REMOTE.

Button	Action
+	creates a new program with the default stage structure
Copy	creates a copy of the current recipe
Save as	creates a new program based on the current one
Save	saves the current changes
↑ / ↓	changes the stage order
□	copies one stage
×	deletes the stage after confirmation
Add stage	adds a new Smoking stage

9. STAGE EDITING

Parameter	Range	Step	Meaning
Time	0 min and above	1 min	0 min = stage skipped and hidden.
Chamber temp.	numeric value	0.5°C	Chamber temperature target; the actual limit depends on the controller.
Meat temp.	numeric value	0.5°C	Used, among other things, as an end condition.
Fan	0...100%	1%	Fan level, if the controller reports such a channel.
Smoke	0...100%	1%	Smoke generator level, if available.
Damper / valve	0...100%	1%	Valve or damper position/command.
Power limit	0...100%	1%	Maximum power for the stage.
End condition	time / meat temp.	selection	Ends the stage after the time elapses or when the meat temperature is reached.
Instruction	text	—	Empty field = standard instruction for the stage type.

Default new Smoking stage

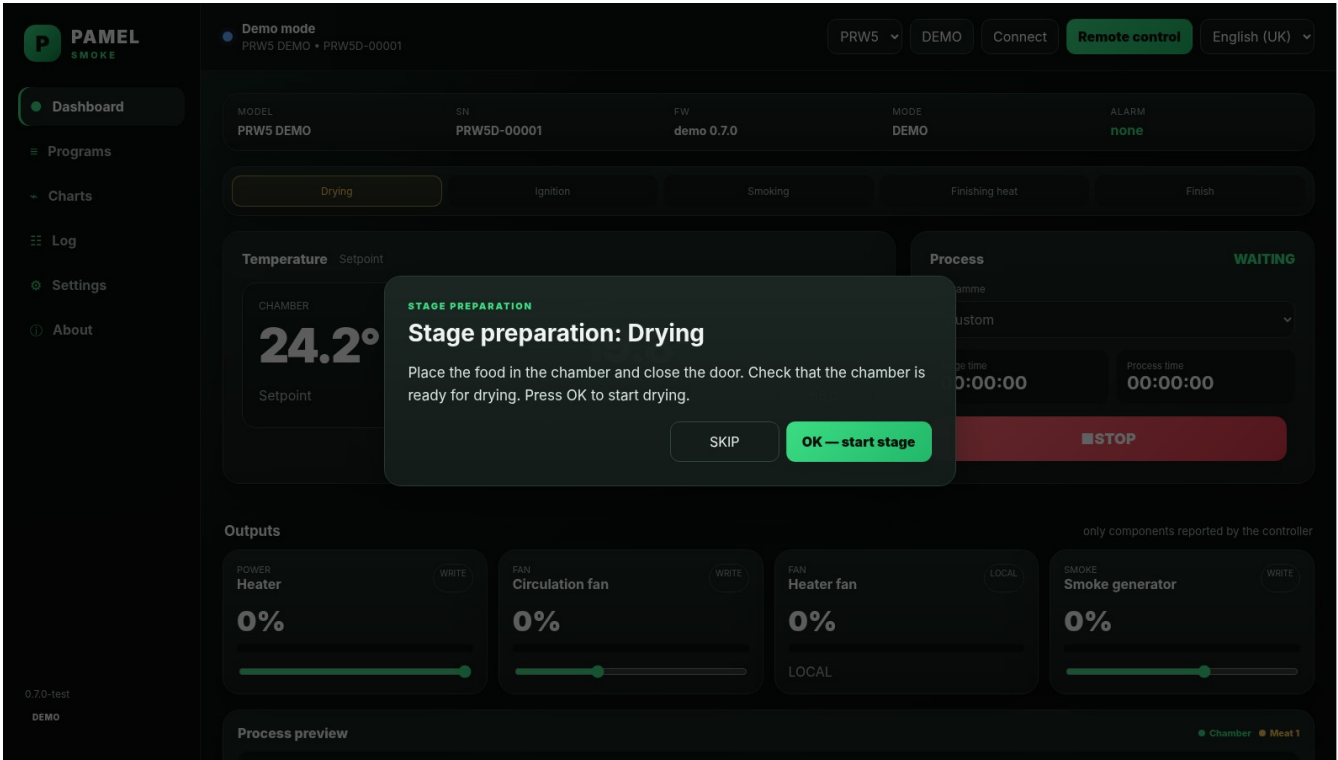
60 min • chamber 65°C • meat 0°C • fan 35% • smoke 60% • damper 40% • power limit 90% • end by time.

IMPORTANT

The interface allows numeric temperatures to be entered, but the controller may

have its own permitted range. PAMEL SMOKE sends only fields with WRITE permission; the controller may still reject a value outside its own limits.

10. STAGE PREPARATION



The window appears before every active stage.

Before starting an active stage, PAMEL SMOKE pauses the transition and displays an instruction. The user must decide whether to start the stage or skip it. This prevents physical actions - for example lighting the smoke generator - from being performed “in the background” without confirmation.

Element	Action
SKIP	The stage is skipped and the software moves to the next active stage.
OK - start stage	The software starts the stage and sends its setpoints in REMOTE.
Time = 0 min	The stage is inactive: it does not appear on the stage bar and no preparation window is shown.

CUSTOM INSTRUCTION

You can enter your own text in the stage editor. If the field is empty, the software uses the standard instruction for that stage type.

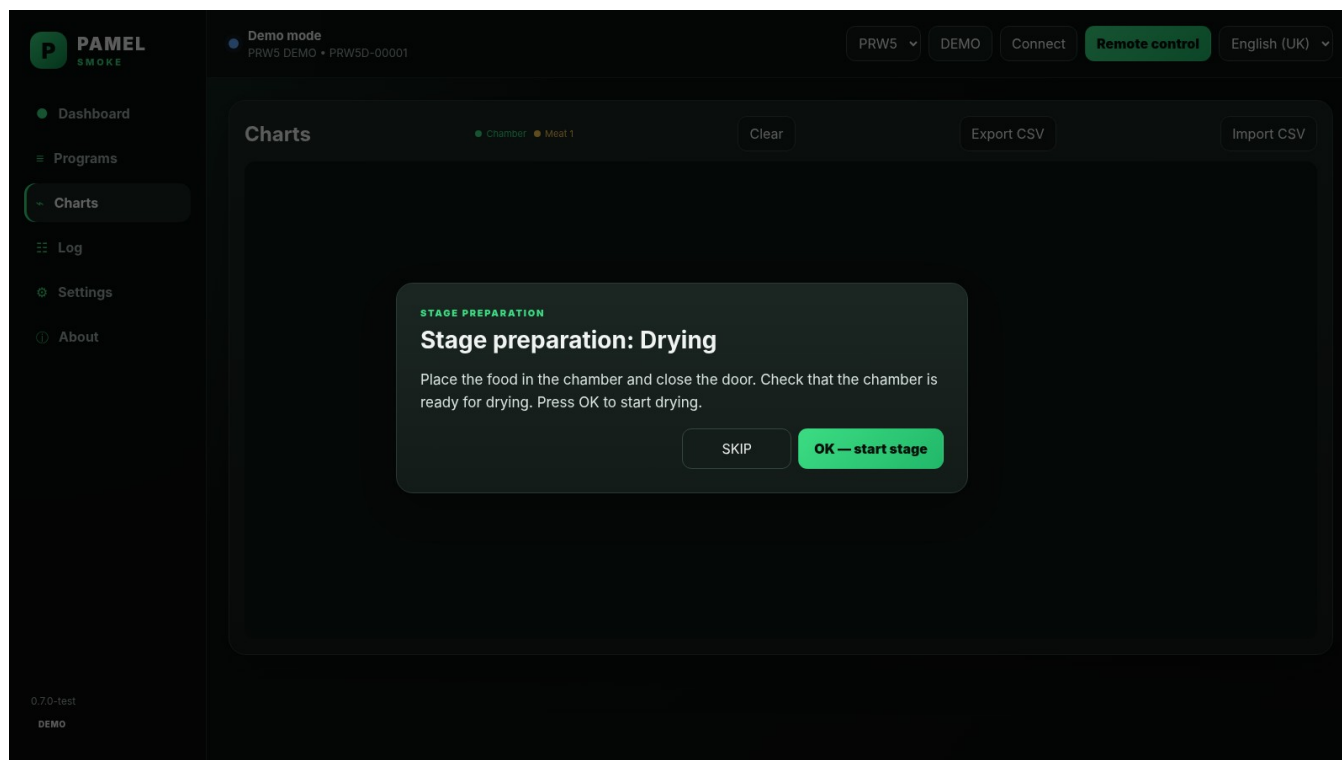
11. RUNNING THE PROCESS STEP BY STEP

1. Connect the controller by USB and wait for the Connected status.
2. On the Dashboard, check the model, SN, firmware, temperatures and that there is no active alarm.
3. If you only want to observe the controller, remain in MONITOR. If PAMEL SMOKE is to run the process, enable Remote control.
4. Select a recipe in the Program field.
5. Press START. The software moves to the first active stage and displays the preparation instruction.
6. Perform the physical actions and press OK - start stage or SKIP.
7. During the stage, observe temperatures, output states and alarms. The software sends KEEPALIVE every 5 s.
8. When the end condition is met, the software moves to the next stage. Before it starts, the instruction is shown again.
9. After the last stage is complete, the process stops. Use STOP at any time if necessary.

DOES NOT RESTART BY ITSELF

If communication is lost during REMOTE and the controller performs SAFE STOP, the process does not start automatically after the connection returns. The user must check the installation and consciously start further operation.

12. CHARTS AND CSV



Charts screen - temperature of individual probes over time.

The chart uses samples from the current software session. Each probe has its own colour and label. The screen is used to analyse temperature changes over time and compare the course of the process.

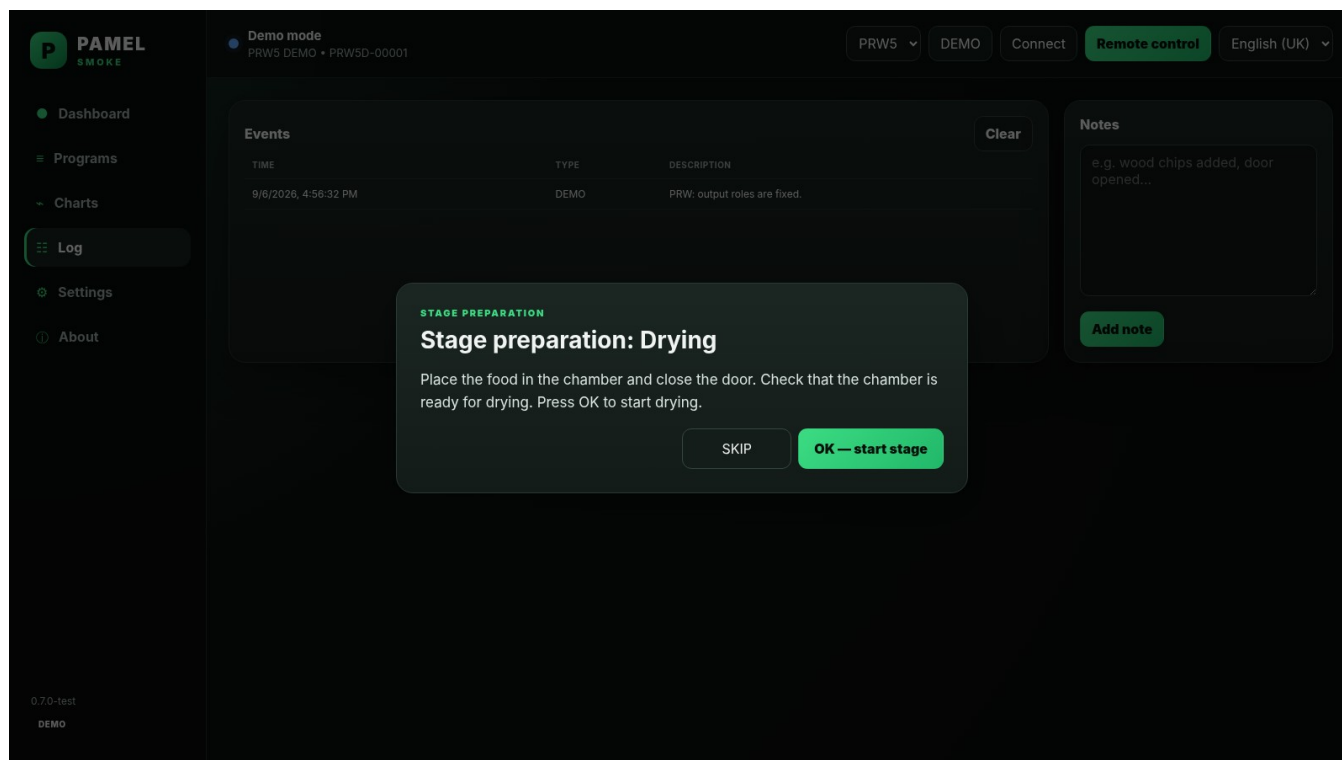
Function	Action
Clear	removes current chart samples from the software
Export CSV	saves samples to PAMEL_SMOKE_YYYY-MM-DD.csv
Import CSV	loads previously saved data into the chart

CSV uses the “;” separator. It contains time, T1...Tn, OUT1...OUTn, stage number and information on whether the process was running. Import does not send data to the controller - it is for viewing only.

TIP

Export CSV after an important process before clearing the chart. You can keep the file together with the recipe and your own notes.

13. EVENT LOG AND NOTES



The event log stores events and manual user notes.

The event log helps reconstruct what happened during operation. The software records messages about connection, process start and stop, stage changes, alarms and other important events. A user note can be added on the right-hand side.

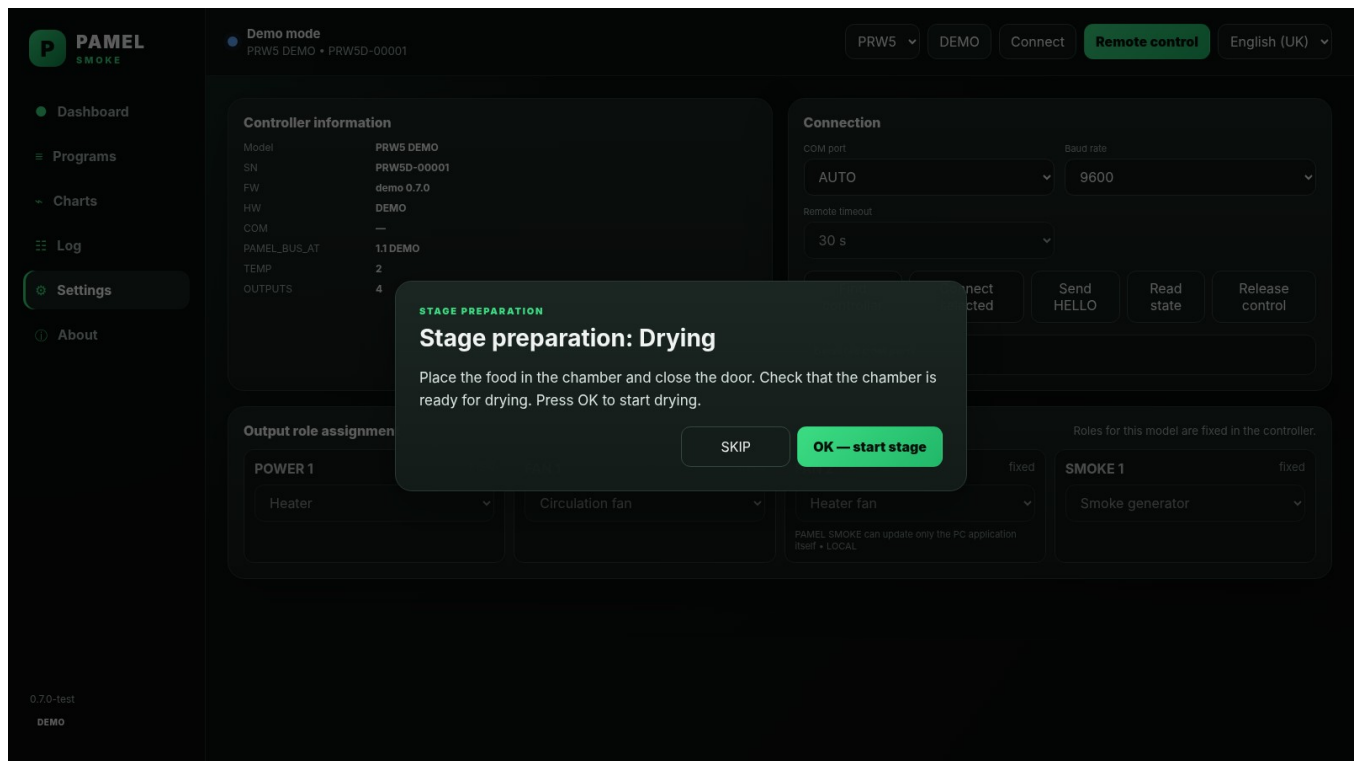
Examples of useful notes

- “wood chips added”
- “door opened for 2 min”
- “product arrangement changed”
- “meat probe checked”

REMEMBER

The event log does not replace CSV export. A note describes an event, while CSV preserves the numeric process values.

14. CONNECTION SETTINGS



Settings - controller information, connection and output roles.

Element	Meaning
COM port	AUTO recommended. Manual selection when several devices are present or for diagnostics.
Baud rate	Default 9600. Available: 9600, 38400, 57600, 115200.
Remote timeout	30 s - value defined by the REMOTE contract; the field is locked.
Scan ports	Repeats device detection.
Send HELLO	Manually queries the controller for identification.
Get state	Requests the current full state.
Release control	Ends the REMOTE session and leaves the controller in local mode.

AUTO IS BEST

During normal use, do not select a COM number permanently. Windows may assign a different port after the cable is moved.

15. OUTPUT ROLES AND MODEL DIFFERENCES

The Output role assignment section appears according to the detected controller profile. The software does not create virtual channels - it shows only channels reported by the device.

Model	Role principle
PRM	Roles can be assigned by the user to available channels. There is no fan in the PRM profile - FAN_COUNT=0.
PRD3	Configurable channels can be assigned roles such as smoke, fan or damper. The saved mapping is linked to the controller SN.
PRD4	The software uses the channels and permissions reported by the firmware. Available roles depend on the specific PRD4 version.
PRW	Roles are fixed. Typically: heater/power, circulation fan, smoke generator and any other elements reported by the controller.

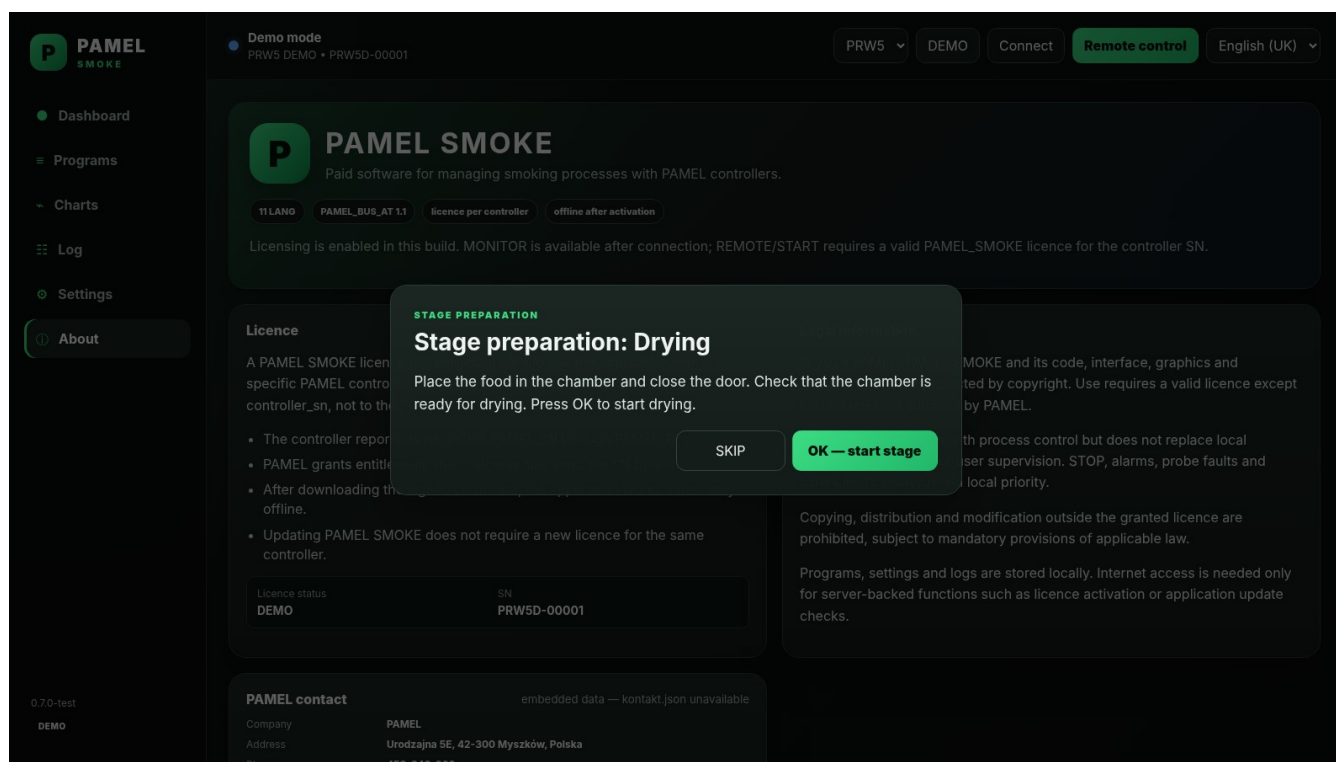
READ / WRITE / LOCAL access

- READ - PAMEL SMOKE only reads the value.
- WRITE - the channel can be commanded in REMOTE.
- LOCAL - the channel remains controlled locally by the controller and the software does not provide a slider.

DO NOT CHANGE ROLES AT RANDOM

An incorrect role assignment may cause the recipe to control a different component than expected. After a change, check each channel without product in the chamber.

16. INFORMATION, LICENCE AND UPDATES



Information screen - licence, safety, contact and software update.

What you can check

- licence status and SN of the currently connected controller;
- legal information and safe operating rules;
- PAMEL contact details;
- availability of a newer PAMEL SMOKE version.

The update applies only to the software on the computer. PAMEL SMOKE does not send firmware to the controller. Installation of a software update is blocked while a process is active so that operation is not interrupted.

PAMEL CENTRE

Main address for manuals, updates and help: <https://serwer.pamel.pl/>

17. REMOTE, SAFE STOP AND ALARMS

KEEPALIVE and timeout

After REMOTE is accepted, PAMEL SMOKE sends the first KEEPALIVE immediately and then every 5 s. The controller has a 30 s timeout. KEEPALIVE works regardless of whether the user is on Dashboard, Programs, Charts, Event log, Settings or Information.

Loss of communication

- No further KEEPALIVE → the controller ends the REMOTE session and enters a safe state.
- PAMEL SMOKE does not restart the process automatically when the connection returns.
- Check the connection and the current state of the device, and only then consciously resume operation.

Alarms and probe faults

An alarm visible on the Dashboard comes from the controller. Local STOP, alarms, probe faults and safety limits have priority over commands from the software. If a probe is invalid, its tile shows FAULT/— instead of an uncertain value.

DANGER

Never bypass local controller protections to “keep” a REMOTE process running. If the state is unclear, use STOP and remove the cause before restarting.

18. NOTES FOR PRM / PRD3 / PRD4 / PRW

Model	Specific behaviour in PAMEL SMOKE
PRM	No fan in the GUI. In MONITOR, process times may be hidden. Actual power comes from POWER_OUTPUT, and the valve from VALVE_STATE/VALVE_POSITION. REMOTE can also take over an active local process - before takeover, the controller first enters a safe state.
PRD3	May provide more probes and several output channels. Roles for configurable channels can be assigned to a specific SN. REMOTE functions depend on the permissions reported by the firmware.
PRD4	USB hardware and PAMEL_BUS_AT 1.1 firmware are required. The software uses only temperatures, outputs, valves and WRITE permissions actually reported by the controller; missing functions are not simulated.
PRW	Output roles are fixed. The software has a smokehouse profile with chamber and meat probes. If the current firmware does not report REMOTE, the device remains in MONITOR despite a correct USB connection.

COMMON RULE

The software adapts the screen to CAPABILITIES/FIELD_LIST reported by the controller. Two units of the same model with different firmware may provide different ranges of functions.

If you have an older controller and are unsure whether it can work with PAMEL SMOKE, provide service with the model, FW version and - if the software reads it - PAMEL SN.

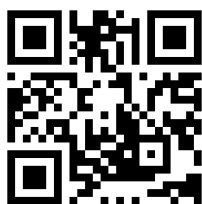
19. BEFORE CALLING SERVICE

SYMPTOM	POSSIBLE CAUSE	WHAT TO DO
The software remains in DEMO	no USB, controller switched off, charge-only cable, old firmware	check power and cable; Settings → Scan ports; check the requirements in section 3
Controller appears on the list but does not connect	port occupied by another program or incomplete protocol response	close other COM programs, unplug/reconnect USB, repeat HELLO
Remote control is greyed out	no licence, no SN or firmware without REMOTE	check Information → Licence and the firmware compatibility table
Process stopped after enabling REMOTE	controller enters a safe state before takeover	this is correct behaviour; select a program and start it consciously from the PC
Process did not return after USB was disconnected	SAFE STOP after 30 s timeout	remove the cause, check the installation state, take over REMOTE again and start the process
Output slider is not visible	READ ONLY or LOCAL channel	this is not an error; the software does not allow writing to a field without WRITE permission
Temperature shows FAULT	invalid probe or no probe	check the probe and its connection at the controller; do not force the process from the PC
Stage time is not shown in MONITOR	controller/model does not provide the counter	the time is visible only when the firmware reports the corresponding field
Software update does not start	active process or no connection to the server	finish the process; check Internet access; retry in Information → Check for update

20. QUICK START, PAMEL CENTRE AND VERSION

Quick start in 8 steps

1. Make sure the controller is a compatible PRM / PRD3 / PRD4 / PRW and has USB.
2. Connect the controller to the computer with a USB cable.
3. Start PAMEL SMOKE and wait for Connected.
4. Check MODEL, SN and FW.
5. For viewing only, remain in MONITOR. To run the process, activate Remote control.
6. Select or prepare a program on the Programs tab.
7. Press START and, before each stage, follow the instruction in the Stage preparation window.
8. When finished, save the CSV and - if needed - add a note to the Event log.



PAMEL CENTRE
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Manual version: 1.0 • date: 2026-09-06 • language: EN • covers the PAMEL SMOKE 0.7.0 family / installer 0.7.0.3.

REMEMBER

The software does not update controller firmware. Always check the required controller version in the compatibility table and in the current materials in PAMEL Centre.

WARRANTY TERMS

PAMEL, 42-300 Myszków, ul. Urodzajna 5E

1. PAMEL provides a warranty for the controller (without additional accessories) within the territory of the Republic of Poland: 24 months basic warranty, 6 months extended manufacturer's warranty, and the option to purchase an extension of up to 40 or 50 months. The total warranty period cannot exceed 80 months from the device's production date. The purchased extension is confirmed by a hologram sticker on the warranty card.

2. Additional accessories and consumables, including probes, heaters, antennas, sensors, holders, cables, and batteries, are not covered by the device's extended warranty; they are subject to the rules of law and the terms and conditions of sale.

3. During the warranty period, the manufacturer undertakes to repair any physical defects free of charge. If at least four repairs have been performed under the basic warranty and the device remains defective, the Buyer may request a replacement with a device of equivalent parameters or a refund. The warranty period is extended by the duration of the repair.

4. Complaints should be submitted by email to pamel@pamel.pl or by phone. The manufacturer will first attempt to resolve the problem remotely and recommend further steps. At the manufacturer's request, the Buyer will complete a complaint report.

5. The warranty covers only defects resulting from causes inherent in the device. It does not cover damage resulting from, among other things, improper installation, operation, or maintenance, poor storage conditions, inappropriate consumables, unauthorized repairs or modifications, mechanical damage, flooding, condensation, contamination, atmospheric phenomena, fortuitous events, or exceeding the rated parameters.

6. The warranty does not cover claims regarding the technical parameters of the device if they are consistent with the manufacturer's specifications.

7. The warranty is valid only if the device is delivered complete, in packaging that protects it from damage, along with documentation, cables, and additional components, without broken seals or identification marks, and with the original warranty card signed by both parties and a sticker with the production date.

8. The warranty does not cover services and materials related to normal operation, such as assembly, programming, cleaning, maintenance, replacement of fuses, light bulbs, and consumables. Such services are subject to a fee.

WARRANTY TERMS

9. The service center may refuse warranty repairs if the data in the documentation does not match the condition of the device, unauthorized changes to the documents have been made, or identification marks have been removed.

10. Warranty repairs are completed within 21 days of the device's delivery to the service center. If it is necessary to import parts from abroad, the deadline may be extended, of which the Buyer will be informed by email.

11. The device must be installed in accordance with standards and the operating instructions; if required by regulations, by a qualified person.

12. The rights and obligations of the parties are governed by this document. Equipment not collected from the service center within 3 months of the repair becoming the property of the service center. Parts replaced during the repair remain the property of the manufacturer.

13. The manufacturer is not responsible for the loss of user data stored on the device. The device can be returned with factory settings after repair.

14. Your signature on the warranty card confirms that you have read and accepted the terms and conditions. A warranty card without a signature and the original production date sticker is invalid.

15. The number of repairs does not include maintenance, cleaning, replacing light bulbs, fuses, consumables, or repairs resulting from normal wear and tear.

DATE	SELLER	CUSTOMER