

System Administrator's Guide

1 Hardware and software requirements

Computer IBM PC with processor(s) supporting 32-x (x86) and 64-bit instructions x86, Intel64, AMD64.

The program is installed on the 32-bit and 64-bit versions of operating system Microsoft Windows 7/8/10/11 with the installed package Visual C ++ Redistributable for Visual Studio 2015-2022 x86 and x64 versions.

The minimum amount of free space for permanent memory (HDD\SSD) is at least 1GB.

The minimum amount of RAM is 2GB (limitation of 64-bit operating system), 8GB is recommended. During the calculation, the program uses at least 50MB or more of RAM depending on the calculation model.

Hardware support (video card) of the standard of three-dimensional graphics OpenGL 1.2 and higher.

Graphic display with a resolution of at least 800x640.

The presence of a USB port version 1.0 and higher to install the key of electronic protection against unauthorized access (included in the package).

1.1. Additional requirements to Windows 10/11

1. Must be 32- or 64-bit OS.
2. Microsoft Visual C++ 2015-2022 Redistributable x86:
https://aka.ms/vs/17/release/vc_redist.x86.exe.
3. Microsoft Visual C++ 2015-2022 Redistributable x64:
https://aka.ms/vs/17/release/vc_redist.x64.exe.

1.2. Additional requirements to Windows 7

1. Must be 32- or 64-bit OS.
2. Service Pack 1 should be installed.
3. Update for Universal C Runtime KB2999226:
<https://www.microsoft.com/en-us/download/details.aspx?id=49093> (for Windows 7 x64).
4. Microsoft Visual C++ 2015-2022 Redistributable x86:
https://aka.ms/vs/17/release/vc_redist.x86.exe.
5. Microsoft Visual C++ 2015-2022 Redistributable x64:
https://aka.ms/vs/17/release/vc_redist.x64.exe.

1.3. Additional requirements to Windows 8

4. Must be 32- or 64-bit OS.
5. Update for Universal C Runtime KB2999226:
<https://www.microsoft.com/en-us/download/details.aspx?id=49082> (for Windows 8 x64).
6. Microsoft Visual C++ 2015-2022 Redistributable x86:
https://aka.ms/vs/17/release/vc_redist.x86.exe.
7. Microsoft Visual C++ 2015-2022 Redistributable x64:
https://aka.ms/vs/17/release/vc_redist.x64.exe.

2. Program installation

To install the program to the front-end computer it is necessary to do the following:

1. Log in with rights of administrator.
2. Insert drive with software.
3. Run **Setup.exe**.
4. Follow all the instructions of the installation program.

During installation process it is necessary to define program location path, as well as folder name for the program menu. Besides, dongle drivers are installed in the course of program setup, if necessary. Distribution kit includes **Acrobat Reader** software for documents reading.

5. Insert dongle in parallel or USB port. Perhaps, a dongle driver launch will require a system reboot.

CAUTION: A dongle must be removed from the port during the installation process to avoid its damage.

6. Check system clock truth. Incorrect system time may cause impossibility of dongle operating.

7. To launch a program click a **Nozzle-FEM**  shortcut or run the executed file **Nzl64_App.exe** (or **Nzl32_App.exe** for the 32-bit program version).

In case the program is delivered by dealers of [PASS Team](#), a registration card should be sent to activate a dongle. After receiving a dongle updating string use a dongle updating program.

3. Distribution kit

1. Flash drive with software containing the following:
 - a) **SETUP.EXE** - **PASS/Nozzle-FEM** program installation file;
 - b) **ACROBAT** - setup directory for Acrobat Reader - a program for preview and printout of documentation;
 - c) **SENTINEL** - setup directory for manual installation of the dongle Sentinel **Protection Installer 7.6.9.exe**;
 - d) **GUARDANT** - setup directory for manual installation of the dongle Guardant.
2. License Agreement.
3. Registration card (for dealer supplies).
4. Dongles (per number of copies supplied) providing unauthorized access protection for **PASS/Nozzle-FEM** program.

4. Software copy protection

The PASS/Nozzle-FEM program is protected from unauthorized copying. The protection lies in the fact that the program, while running, checks for the presence of an available and valid license and, if it is missing, displays a corresponding message.

4.1. License providers

A license for a program can be supplied by several types of license providers:

License provider		Description
Sentinel HL	Hardware dongles	A USB hardware key is used. Can be local or network. Installation of drivers is required for network dongles.
Guardant		
Internet License	Web-license	The HTTPS protocol is used to transfer data. Requires Internet connection and PASS ID for authentication.
Trial License	Trial license	This is a temporary Web-license that can be obtained directly from the program. Requires Internet connection and PASS ID for authentication.

The type and parameters of the license provider used are stored in a text file (license.txt). If the user has several different licenses, he can easily switch between them simply by pointing to different license files in the program.

4.2. Transferring a license to a user

When recording a license to a hardware key or linking a PASS ID to a web license, the program uses a text file with license.txt settings, which is sent to the user. The user must specify this file when starting the program. After this, the program saves a copy of this file and subsequently works with it. The copy is saved in the following path:

`%APPDATA%\PASSUITE\LICENSES\license-[license number].txt.`

To see the parameters of the license used (number, provider, etc.), user must to execute the command of the menu item "**Help > About PASS/Nozzle-FEM**" (fig. 4.1). A screenshot of this dialog box with license parameters and program version number must be attached when contacting technical support for the program.

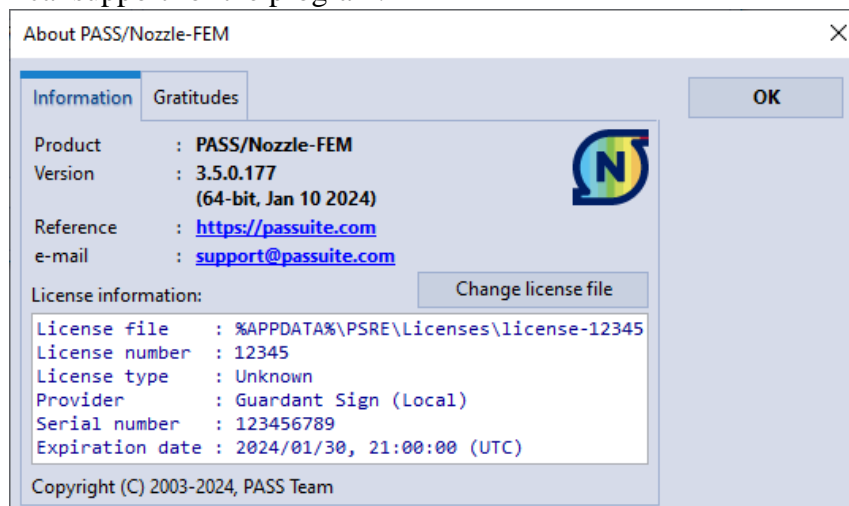


Fig. 4.1 License parameters

To change the license, you must select "**Change license file**" in this dialog box. After this, user must specify the path to the new license file.

When you first launch the program, it will show an error that the license was not found and will offer several options for further actions (fig. 4.2). If the user has a valid license file, then he must select the "**Set up the license file**" item. The "**Retry**" button reads the existing license file again. To configure internet license, see the description below.

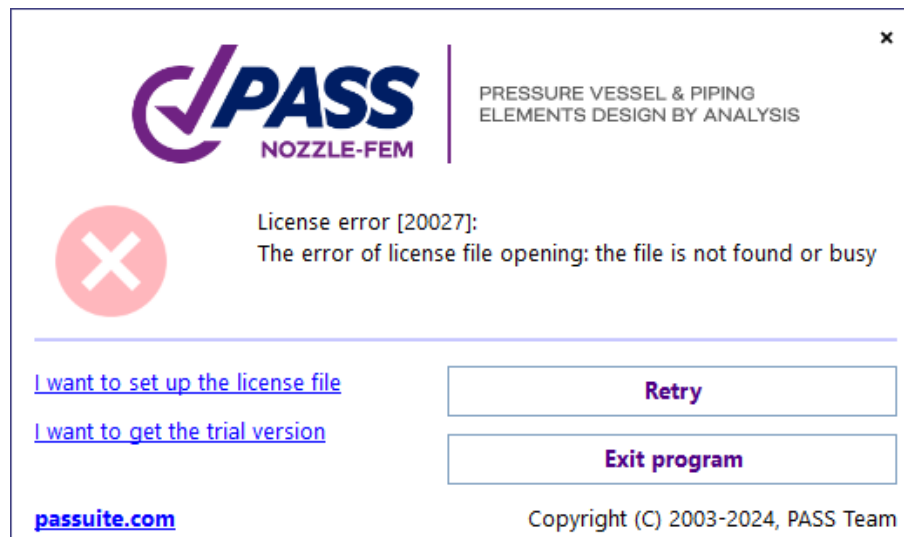


Fig. 4.2 License is not found

4.3. Internet License

To obtain a web license, the user must register a **PASS ID** at:

<https://lms.passuite.com/personal/signup>.

PASS ID is a pair of {email, password}, user identification data used to work with the internet license. The user's email can be any valid address, including a corporate address. The user generates the password independently. The program remembers the **PASS ID** for further quick verification of the internet license when launching the program. User can also write **PASS ID** to the license file.

PASS ID registration is a one-time process. Multiple licenses can be associated with one **PASS ID**. After registration, the user must send the sales manager (support@passuite.com) his email address to link the license to it.

Attention:

Do not tell anyone your **PASS ID** password, not even employees of **PASS Team**!

Sales and technical support services do not require Your password to manage your license.

To work with internet license, a hardware key is not required, but a permanent connection to the Internet is required. To work with the web-license, the HTTP protocol is used, so if the user has access to the Internet through a browser, then no special firewall settings are required.

If the system is configured for access via a Proxy server, its settings will be applied automatically.

If the license file does not contain **PASS ID**, then after reading it the program will generate an error (fig. 4.3).

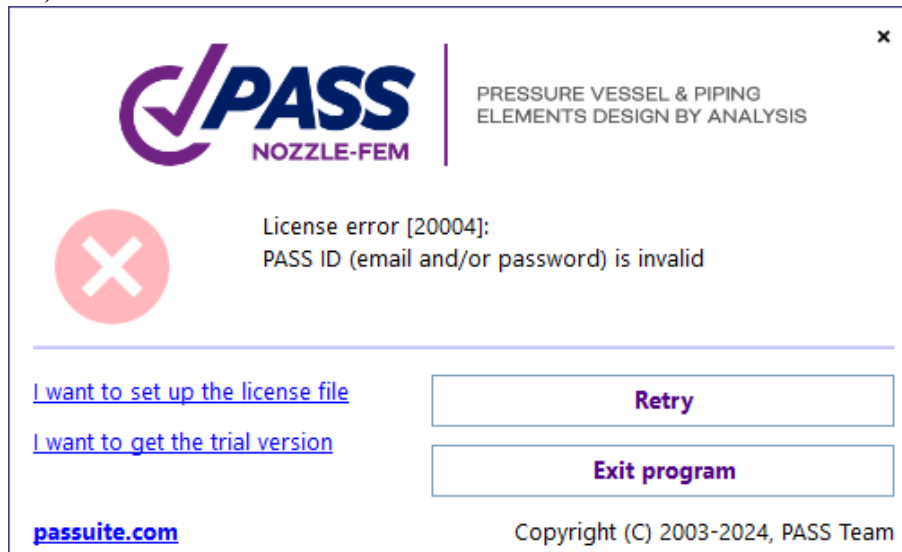


Fig. 4.3 **PASS ID** authorization error

To enter a valid **PASS ID**, click the "Retry" button, after which the **PASS ID** authorization dialog box will appear, where user must enter your email address and password (fig. 4.4), which were used during registration (see above). If **PASS ID** has not been registered, user can go to the registration page using the link [Create a PASS ID account](#) in the same dialog box or recover your **PASS ID** password.

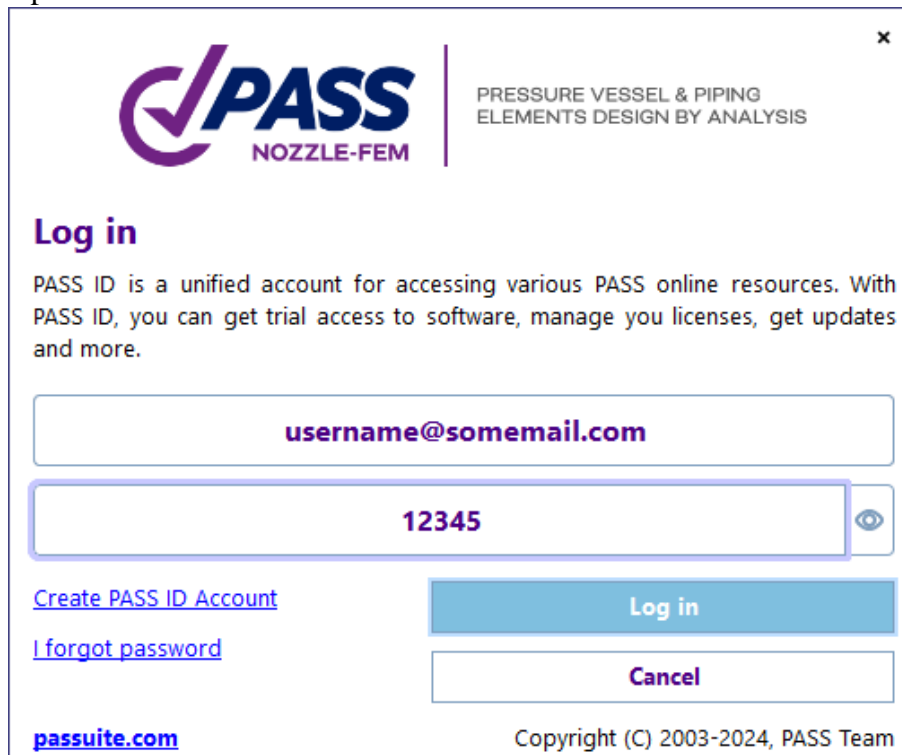


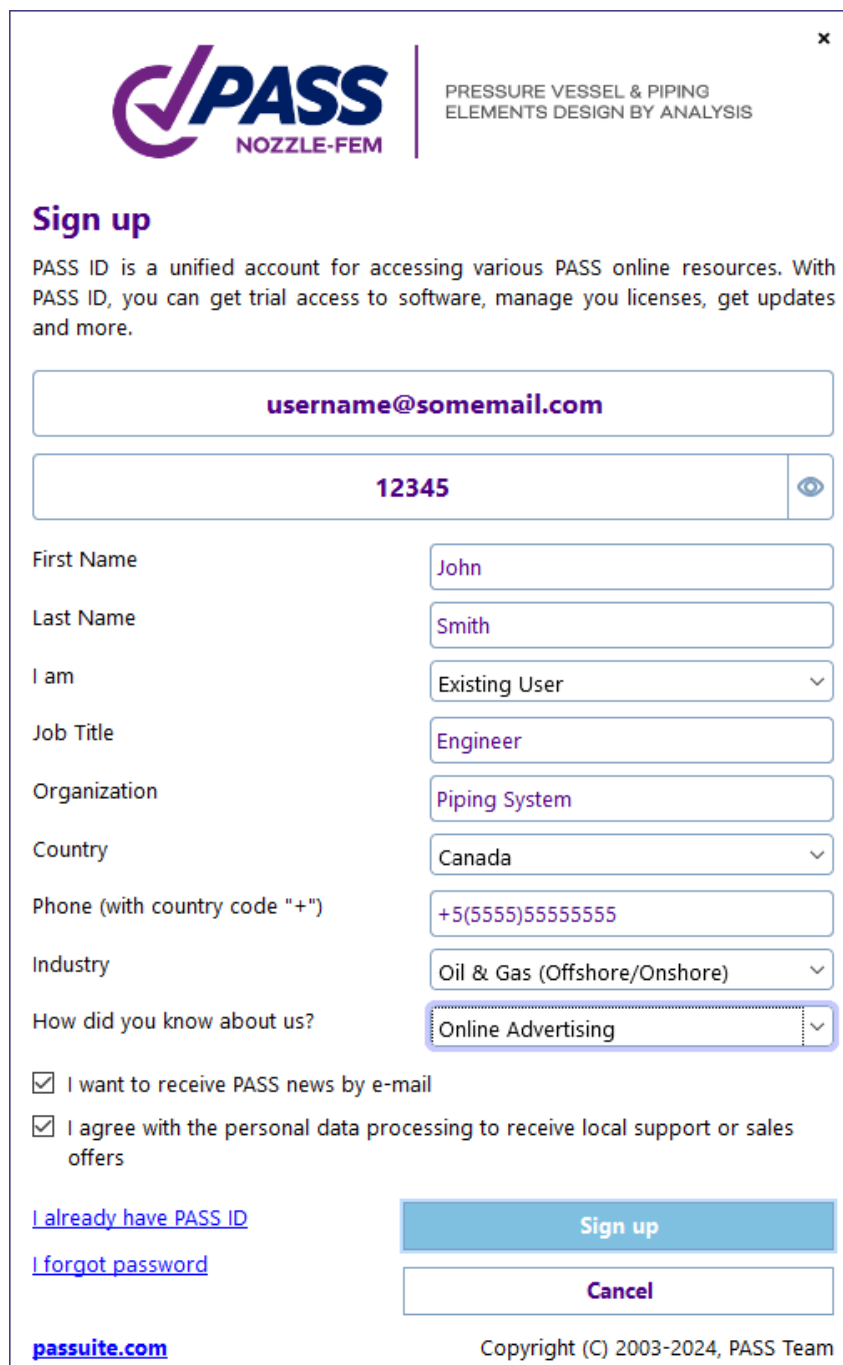
Fig. 4.4 **PASS ID** authorization for internet license


4.4. Trial License

To receive a trial version, the user must fill out the registration form to obtain a Trial License. After successful registration, a **PASS ID** is created for the user and a new Trial License is attached to it. The entire process occurs automatically, without the participation of a manager.

The same **PASS ID** can be used both to obtain a Trial License for other programs and to purchase a commercial license.

If the user does not have a commercial valid license, then he can obtain a trial version directly from the program upon first launch or when any licensing error occurs. To do this, in the dialog box (fig. 4.2) user need to click on the I want to get the trial version link. After clicking on this link, the program will prompt to fill out a form to register the **PASS ID** of the trial version (fig. 4.5).





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Sign up

PASS ID is a unified account for accessing various PASS online resources. With PASS ID, you can get trial access to software, manage you licenses, get updates and more.

First Name

Last Name

I am

Job Title

Organization

Country

Phone (with country code "+")

Industry

How did you know about us?

☒ I want to receive PASS news by e-mail

☒ I agree with the personal data processing to receive local support or sales offers

[I already have PASS ID](#)

[I forgot password](#)

passuite.com

Copyright (C) 2003-2024, PASS Team

Fig. 4.5 The registration form of trial version

After filling out the form, user must click on the **Sign up** button. If all fields are filled in correctly and the program has received a connection with the server, then the program enters the waiting mode for registration to complete (fig. 4.6). Otherwise, the program will generate an error with the appropriate description (for example, this **PASS ID** has already been registered).

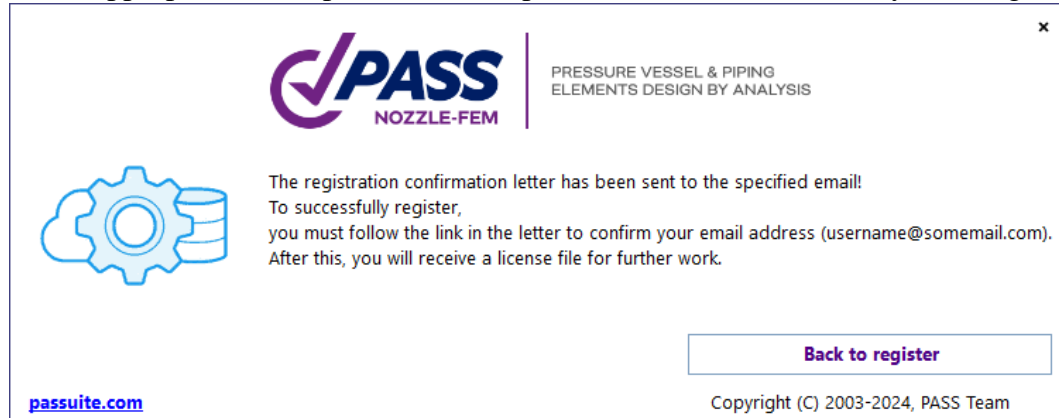


Fig. 4.6 Registration standby mode **PASS ID** of trial version

As soon as the user confirms his email address, the program will issue a trial license file (fig. 4.7), which must be saved in order for the program to start using it.

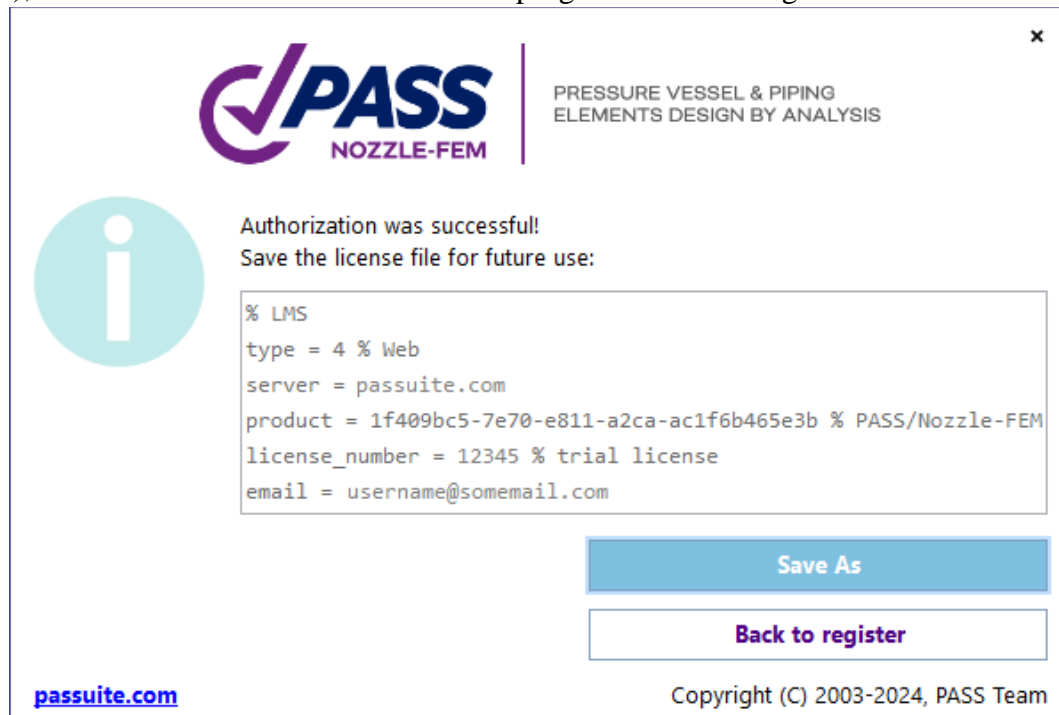


Fig. 4.7 The file of a trial license

If the user already has a **PASS ID**, but for some reason does not have a license file, then in the registration form (fig. 4.5) user can follow the link I already have a **PASS ID**. In this case, **PASS ID** confirmation is not required, the program does not enter standby mode, and upon a successful response from the server, it will issue a license file (fig. 4.7).

4.5. Hardware dongles

Hardware keys can be one of two types: Sentinel HL and Guardant. Their setup is generally the same, but differs in some details (see below).

The supplied license.txt file already contains information about the key type and serial number, so in most cases additional configuration is not required. The type (local/network) of the key is determined by the `remote=local|remote` parameter in the license.txt file.

Attention:

Before starting the program for the first time, dongle drivers for an electronic security key (for the specific type of key that is used) must be installed on the user's computer.

4.5.1. Drivers for Sentinel HL

To install drivers on Windows OS, you need to run `HASPUserSetup.exe`. This package is included in the program distribution kit and is intended for installing dongle drivers and network services. Thus, it must be installed on the local PC, as well as on the server if the key is network. Users can download this file from our website from the downloads section:

<https://passuite.com/nozzle#download-tab>.

4.5.2. Drivers for Guardant

It is recommended that the user download the latest versions of drivers and utilities from the key manufacturer's website:

<https://guardant.com/support/users/drivers>.

Local dongles only require drivers. To operate the network dongle server – `Server Guardant Net`. Users can also install `Guardant Control Center` to monitor and manage [network] dongles. Drivers are included in the distribution kit of our program and can also be downloaded from the website:

<https://passuite.com/nozzle#download-tab>.

4.5.3. Converting Sentinel SuperPro dongles to Sentinel HL format

The latest generation Sentinel SuperPro hardware dongles (purple and red) can be converted to the modern Sentinel HL key format. Users of such keys must leave the only key that requires conversion in the port, run the key update program KeySt and follow its instructions. After converting the dongle, KeySt will generate a status string that needs to be sent to managers. In response, the user will be sent an update string that needs to be applied to this dongle, after which the key will be ready for use.

4.5.4. Local dongles

Before starting the program, the user must insert the key into the USB port of the computer and make sure that the light built into the key is continuously lit. The absence of a light bulb or a flashing light indicates either insufficient power of this USB port (in this case, the dongle must be placed in another port), or a malfunction of the port or dongle. Also, the indicator does not light up (Sentinel HL) or blinks (Guardant) if the dongle drivers are not installed.

If automatic program updating is enabled and functions normally, then the local dongle is also automatically updated if necessary (when new versions are released, technical support is extended), this makes manual key updating and sending status and update lines unnecessary.

4.5.5. Network dongles

The network dongle is installed on the server - a computer selected by the user for this purpose on the network. To access the dongle, user need to install a network license manager. Each dongle type has its own (see below).

To configure a network dongle, user must edit the license.txt file by adding an entry indicating the location of the dongle server on the network. The following parameters are allowed (it is enough to indicate only one):

Parameter	Value
lm_ip	dongle server IP address
lm_host	network name (dns) of the key server
lm_id	LM server identifier (for Sentinel HL keys only)

The network dongle is not updated automatically. To update it, user should either use the KeySt utility to get the status string and apply the update string, or use it as a local key:

1. Place the dongle on a local PC with the program installed;
2. Edit license.txt by setting the parameter value `remote=local`;
3. Launch the program and perform the automatic update procedure (the information in the key will be updated);
4. Replace the dongle and the entry in the license.txt file.

4.5.6. Sentinel HL network dongle

For the Sentinel HL network dongle to work, user need to install a license manager service on the server (download link in the download section of the corresponding website), suitable for the server OS (options: Windows 7/8/10/11+, Linux Ubuntu, Linux RedHat, Linux common).

For communication with the application and control, Sentinel LM uses the TCP and UDP protocols, port `1947`. After installing and starting the service, user can monitor the dongles in a web browser at:

`http://<dongle server>:1947`

4.5.7. Guardant network dongle

For the Guardant network dongle to work, user need to install a license manager service on the server, which can be downloaded from the manufacturer's website:

<https://guardant.com/support/users/server/>.

For communication with the Guardant LM application, it uses the TCP and UDP protocols, port `3187`, for control via http - port `3185`. After installing and starting the service, user can monitor the keys in a web browser at:

`http://<dongle server>:3185.`

To search for Guardant network dongle parameters, an additional settings file "gnclient.ini" is used. This file is created automatically using the parameters from "license.txt" and is placed in the folder:

`%LOCALAPPDATA%\PASSUITE\<program id>\.`

The format supports the `grdinipath` parameter to specify the full path to the Guardant network dongle settings file, which can be written to "license.txt". Then the file is created and searched not in %LOCALAPPDATA%\PASSUITE\<program id>\gnclient.ini, but in the path specified by the `grdinipath` parameter.

The `program_name` parameter is also supported, which can be used instead of the program guid. If it is installed, the file is created and searched at:

`%LOCALAPPDATA%\PASSUITE\gnclient.ini.`

Attention:

gnclient.ini is created once. If the file already exists, its parameters are not overwritten. Therefore, further settings must be made either directly in gnclient.ini, or make changes to license.txt, but delete gnclient.ini to apply them. This file can also be obtained from the LM monitoring page (Menu "client ini-file settings").

5. Updating hardware protection dongles (KeySt utility)

To update hardware protection dongles, use the **KeySt** program (utility). The program allows you to update license information in Guardant and **Sentinel HL** dongles, as well as convert legacy **Sentinel SuperPro** dongles to the **Sentinel HL** format.

Attention:

Before using the KeySt, you must leave only one dongle in the port. After its launch, the program analyzes the found dongle and enters the mode of dongle updating or converting.

To update the dongles contents, the **state** and **update strings** are used. Using KeySt, the user generates a text string of the dongle state, sends it to the technical support, and in response receives a text update string. And the update string is applied to the dongle in the KeySt program.

Each update string can be applied to a dongle only once. After the update string is applied, all previous dongle state strings become invalid, so the new state string must be generated to subsequently update the dongle.

To convert a **Sentinel SuperPro** dongle to the **Sentinel HL** format, the user generates a dongle state string, sends it to technical support, in response receives an update string, which is applied to the dongle via KeySt program, after which the dongle is converted to the new Sentinel HL format. After this, it is necessary to write a license information into the converted dongle. So the procedure is repeated, but with the dongle state and update strings of a new format. Using KeySt, the user generates the dongle state string, sends it to technical support, and in response receives an update string, which he applies to the dongle.

Only modern SuperPro dongles can be converted (fig. 5.1). Legacy dongles (fig. 5.2) cannot be converted and must be replaced.



Fig. 2.8. The modern Sentinel SuperPro/Sentinel HL dongle



Fig. 2.9. The legacy Sentine SuperPro dongle

Attention:

The dongle conversion is performed once and is irreversible. After conversion it will be impossible to return the dongle to the SuperPro format.

5.1. Converting Sentinel Super Pro to Sentinel HL

If the program detects the Sentinel Super Pro dongle, it enters into conversion mode (fig. 5.3).

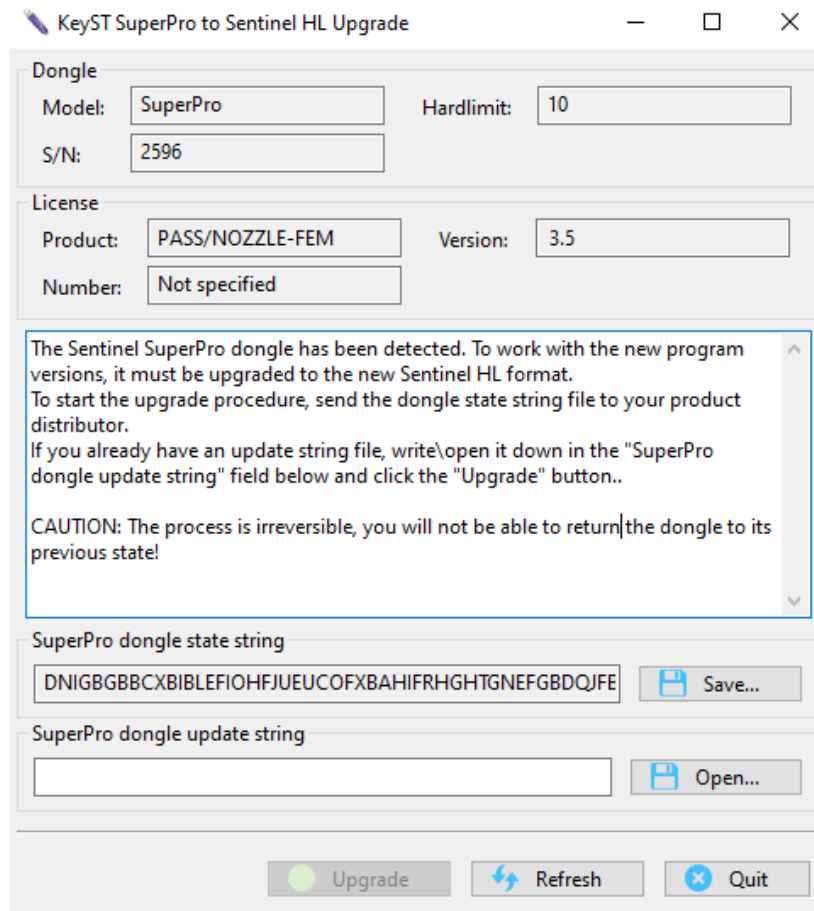


Fig. 5.3. The KeySt program in conversion mode from SuperPro to the Sentinel HL format

Output information:

Field	Description
Title	Current KeySt mode.
Model	Model of the dongle ("SuperPro").
Hardlimit	Maximum number of licenses that can be written to the dongle.
S/N	Unique serial number of the dongle.
License	Information about license in the dongle: product, version, etc.
State string	Dongle state string. You can save it (the "Save" button) to an .idx file, and send it to tech support.
Update string	Dongle update string. You can read it (button «Open») from an .upx file, received from technical support.

In this mode, the user has the following actions:

Action	Description
Convert	Starts the conversion of SuperPro to Sentinel HL (enabled if update string is presented). When you try to convert a legacy dongle (fig. 5.2), an error message appears.
Refresh	Searches for the dongle again and then selects the appropriate mode.
Exit	Exits the program.

5.2. How to convert SuperPro to Sentinel HL

- 1. You need to save the dongle state string to a file.
Press the “Save” button and enter the .idx file name (as on fig. 5.4).
It’s the best way.

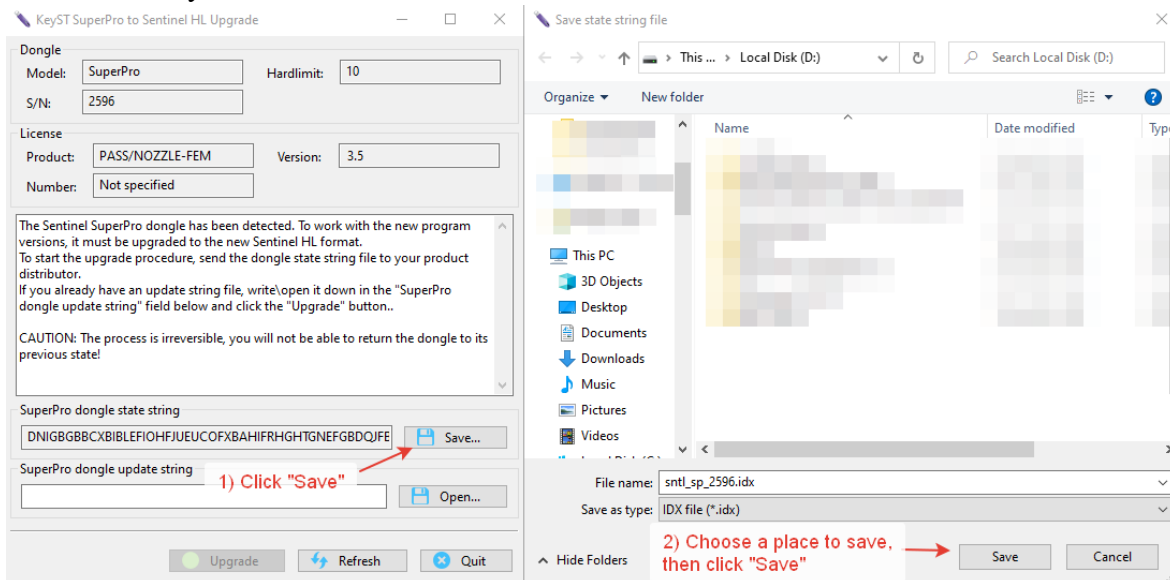


Fig. 5.4. Saving the dongle state string to an .idx file

You can also copy the dongle state string to clipboard via the context menu by right-clicking (fig. 5.5), and then paste it into the editor or email body.

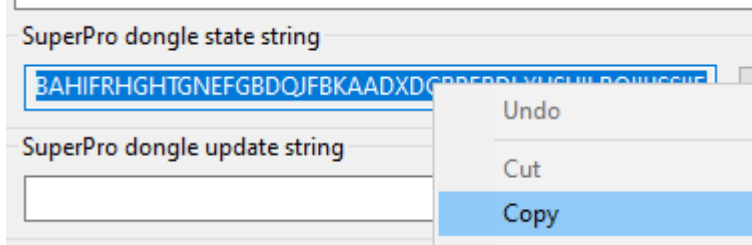


Fig. 5.5. Copying the state string into clipboard via the context menu

- 2. The .idx file you must e-mail to technical support address support@passuite.com.
- 3. You will receive a reply e-mail with an attached .upx file containing the dongle update string (fig. 5.6).

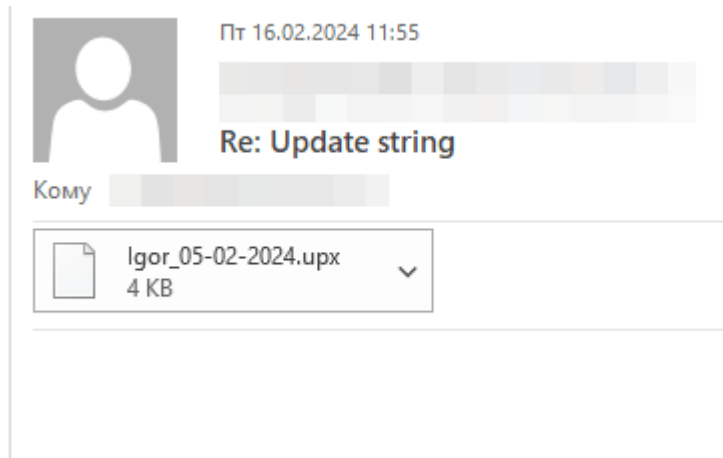


Fig. 5.6. Reply e-mail with a file containing the update string

4. In KeySt you need to open the file containing the update string. To do this, press the “Open” button and select the file (fig. 5.7). You can also copy the update string from the clipboard (fig. 5.8).

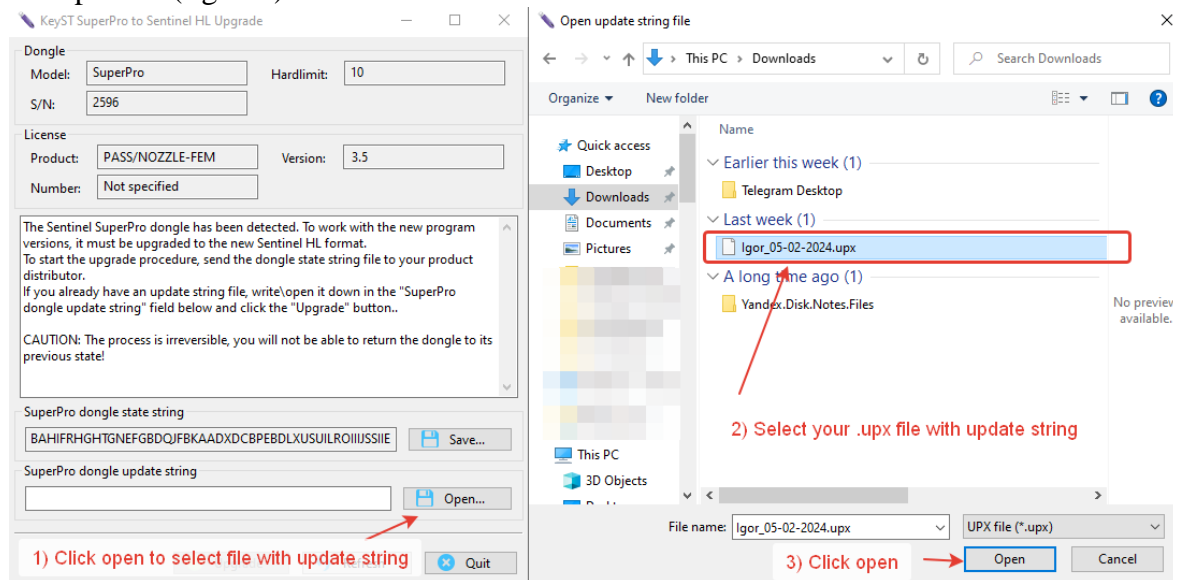


Fig. 5.7. Applying the .upx file

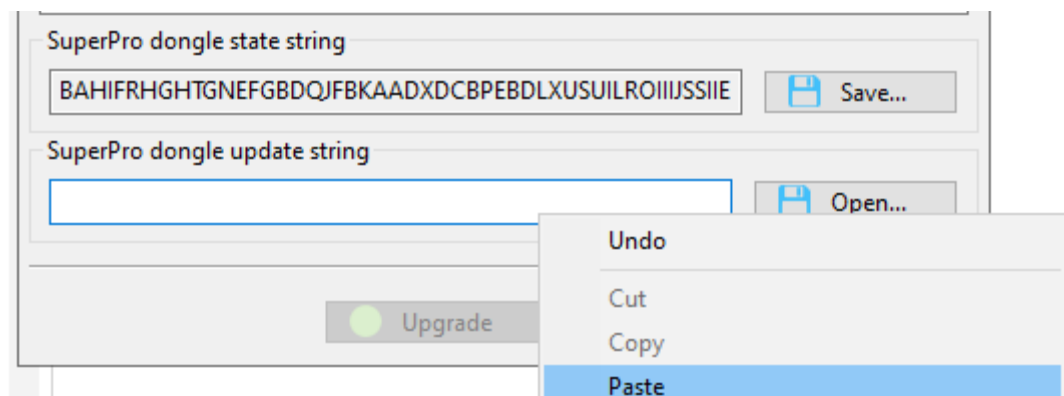


Fig. 5.8. Paste an update string from the clipboard

5. With the dongle update string, press the “Upgrade” button (fig. 5.9).

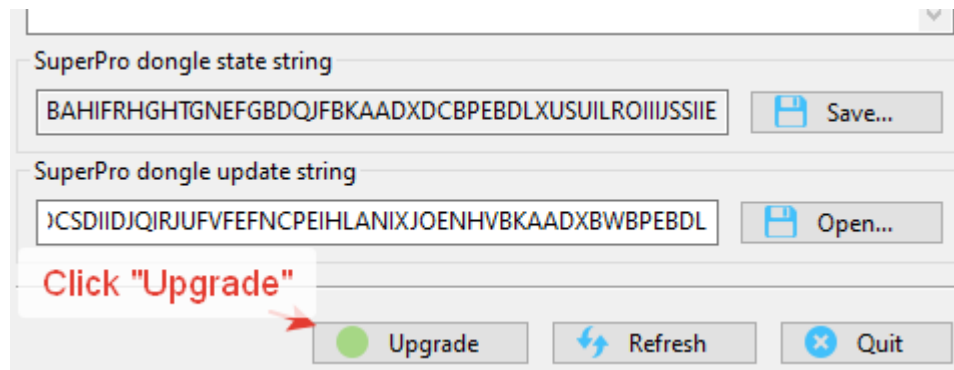


Fig. 5.9. Преобразование ключа

6. You will get a message about the status of operation. In case of an error, please contact technical support and send a screenshot of the error message.
7. If the conversion was successful, the dongle is in the Sentinel HL format. Now you need to update it and write the license information (see the next section).

5.3. Updating Guardant and Sentinel HL dongles

When KeySt finds Guardant or Sentinel HL dongle, it starts the dongle update mode (fig. 5.10).

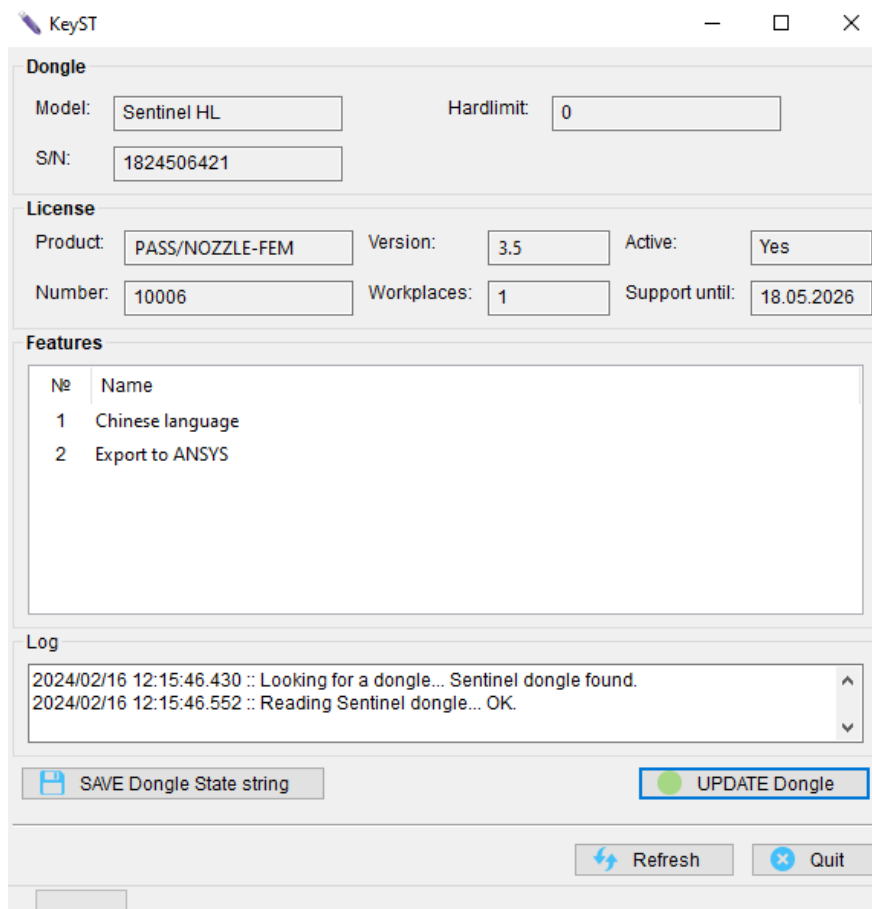


Fig. 5.10. Update mode for Sentinel HL (similar for Guardant)

Output information:

Field	Description
Title	Current KeySt mode.
Model	Model of the dongle ("SuperPro").
Hardlimit	Maximum number of licenses that can be written to the dongle.
S/N	Unique serial number of the dongle.
License	Information about license in the dongle: product, version, etc.
Features	List of license features for the program.
Log	Log of operation.

In this mode, the user has the following actions:

Action	Description
Save state string	Opens the .idx file name selection dialog.
Update dongle	Opens the .upx file selection dialog, and then starts updating the dongle.
Refresh	Searches for the dongle again and then selects the appropriate mode.
Exit	Exits the program.

Attention:

1. For a Guardant dongle, the state string is generated once. The generation (even randomly) of a second state string will make it impossible to apply the update string from the previous state string.
Do not generate new state string while waiting for an update string from technical support, otherwise the received update string cannot be applied and the update process will have to start again.
2. For a Sentinel HL dongle, the update string can only be used once. If you reapply the same update string, or apply different update strings obtained from the original state string previously, error **40054** will occur:
Trying to install a V2C or V2CP file with an update counter that is out of sequence with update counter in the Sentinel protection key. Values of update counter in file are lower than those in Sentinel protection key
The next dongle update is possible only after generating a new state string.

5.4. Sequence of operation for updating Guardant and Sentinel HL dongles

1. You need to save the dongle state string. To do this, press the "Save state string" button and enter the filename (fig. 5.11). For Sentinel HL dongles, the file extension is .sntlidx, and for Guardant dongles, the file extension is .grdidx.

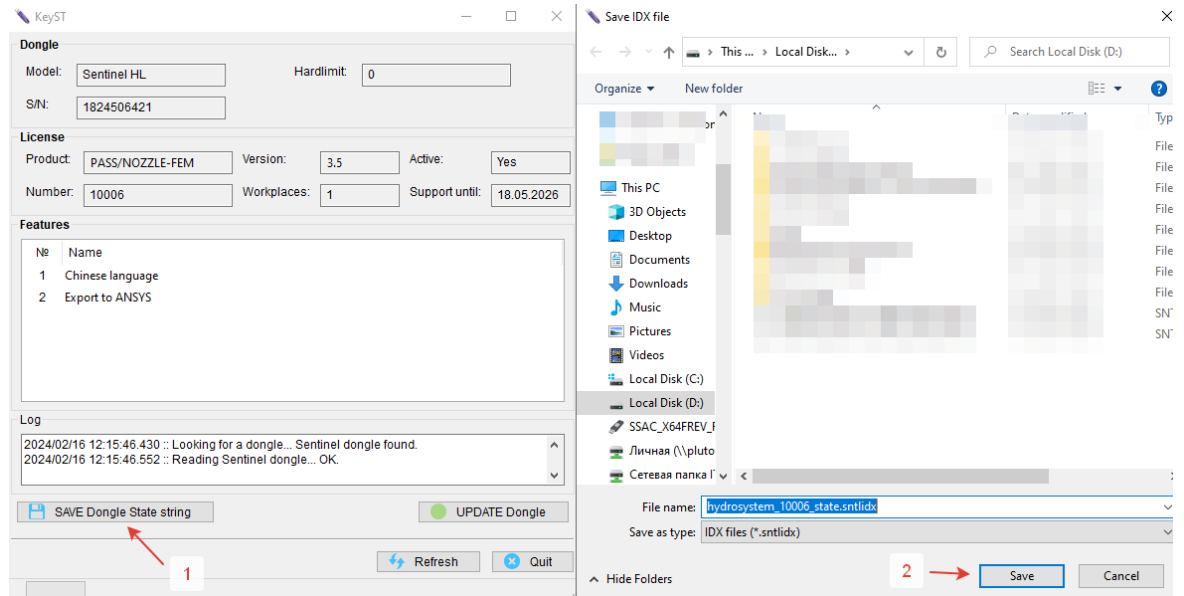


Fig. 5.11. Saving the state string of the Guardant/Sentinel HL dongle

2. The saved .sntlidx/.grdidx file must be e-mailed to tech support address support@passuite.com.
3. In reply e-mail you will get an attachment with the .sntlupx/.grdupx file containing the dongle update string.
4. You need to open the .sntlupx/.grdupx file in KeySt program. To do this, press the “Update dongle” button and select the file (fig. 5.12).

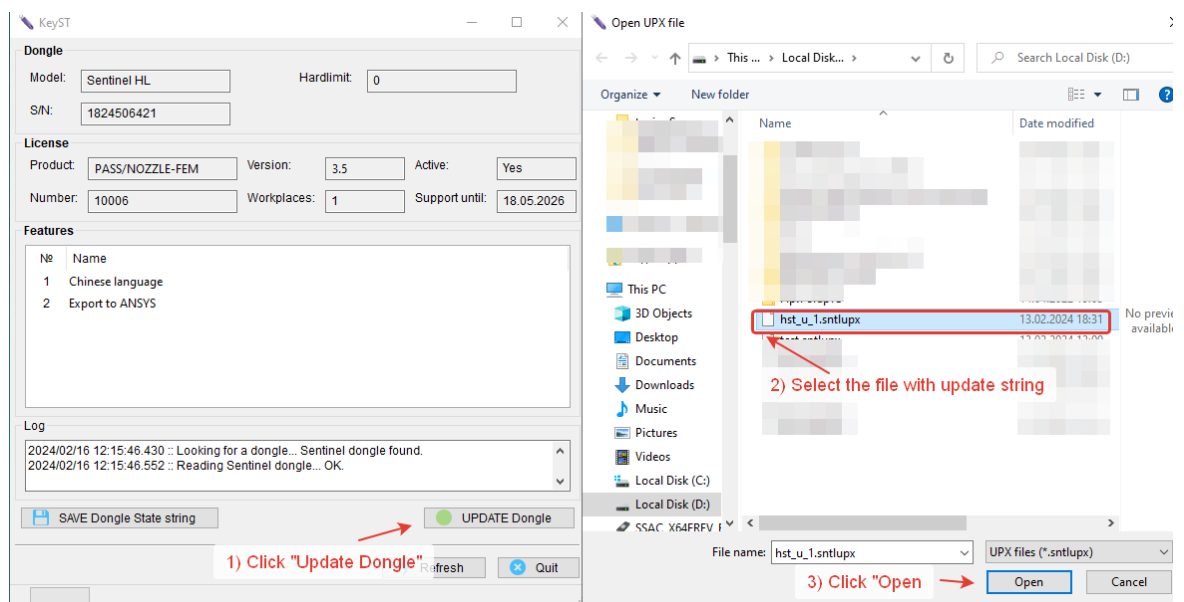


Fig. 5.12. Applying an update string to a Guardant/Sentinel HL dongle

5. The dongle update string will be applied and the dongle content will be updated.

In case of problems or error messages, please contact technical support at support@passuite.com, indicating the error numbers and attaching screenshots of the program.