SIGUR

Sigur ACS Quick Guide

Revision dated 17/07/2026

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1. Introduction

This document contains general information about the Sigur Access Control and Management System (ACS), including instructions for installing and uninstalling the software. In addition, it provides instructions for operating the server management software and Sigur ACS client workstations.

The manufacturer is responsible for the accuracy of the information provided and undertakes to provide an updated version of this document in the event of significant changes or updates to the software.

This document corresponds to software version 1.6.8.131.s.

2. System requirements

2.1. Server hardware requirements

Minimum requirements.

- OS (64-bit only): Windows 10 / Windows Server 2016 / Linux Debian 11 / RHEL 8 (with the latest service pack) / CentOS 8 / Fedora 35 – any of these versions or later.
- CPU: at least 1.5 GHz, 4 cores.
- RAM: at least 8 GB.
- Free disk space: 5 GB for installation, plus additional space for the database. The size of the database depends on the number of cardholders, the size of their photos and the operating time of the system, as information about system events, time zones, etc. accumulates over time.
- At least one available USB port (if using a HASP key for software protection).
- Uninterruptible power supply.
- Monitor resolution: at least 1280*1024.
- For large databases (tens of millions of system events or more), an SSD or RAID array is required.

Recommended requirements.

- OS (64-bit only): Windows 10 / Windows Server 2019 / Linux Debian 11 / RHEL 9 (with the latest service pack) / CentOS 8 / Fedora 35 – any of these versions or later.
- CPU: Intel Core i7 and higher (8 cores).
- RAM: at least 16 GB.
- Free disk space: 250 GB.
- Database server: MariaDB version 10.7.2 or higher (for Windows or Linux), or PostgreSQL version 13 or higher (for Linux only).
- At least one available USB port (if using a HASP key for software protection).
- Uninterruptible power supply.
- Monitor resolution: at least 1280*1024.
- SSD or RAID array.

2.2. Client workstation hardware requirements

- OS (64-bit only): Windows 10 / Linux Debian 11 / RHEL (at least version 8 with the latest service pack) / CentOS 8 / Fedora 35 – any of these versions or later.
- CPU: at least 1 GHz.
- RAM: at least 2 GB.
- Free disk space: at least 500 MB for system installation.
- Monitor resolution: at least 1280*1024.

If client and server software are installed on the same machine, follow the server's recommended hardware requirements.

Any combination of servers and workstations running different operating systems is possible (e.g., a Linux server with Linux and Windows clients).

3. Sigur software

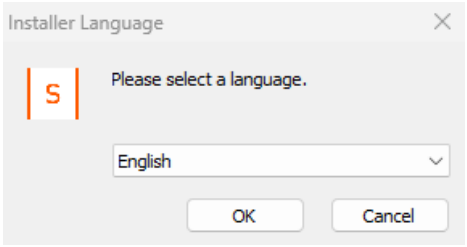
3.1. Sigur system installation

This section describes how to install the Sigur software on different operating systems.

3.1.1. Windows

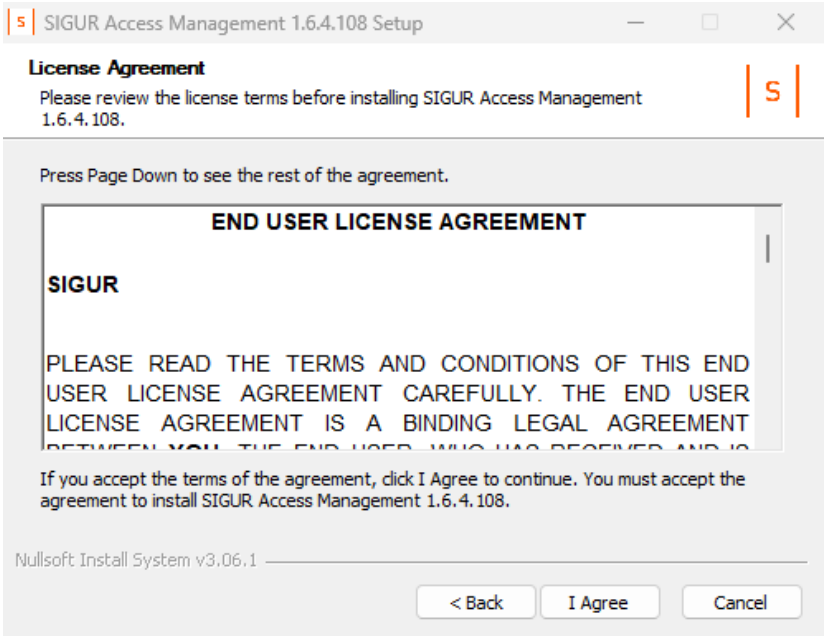
Make sure your system meets the requirements before installing the software. Log in with Administrator privileges, then run the setup-XX.exe file (XX is the version number).

1. Select the software language.



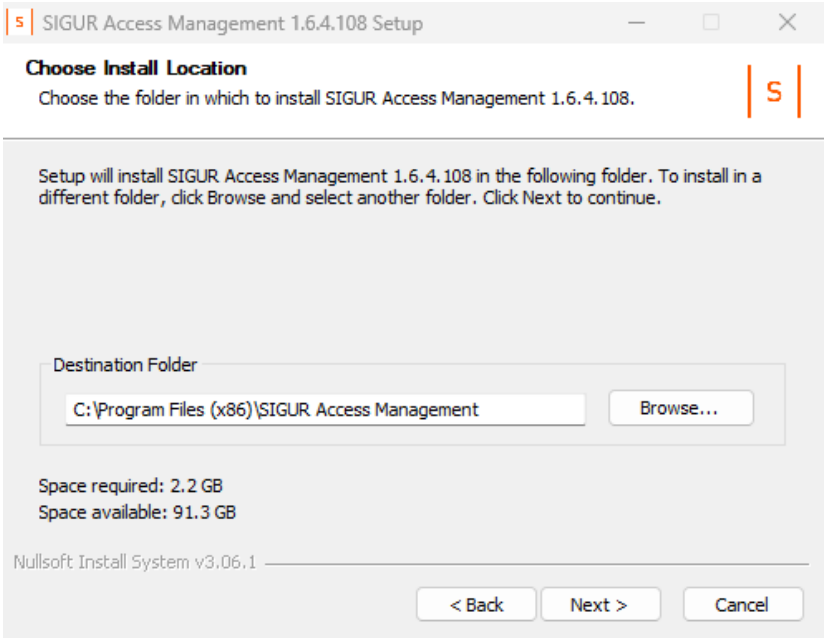
Installer Language window.

2. Read and accept the license agreement.



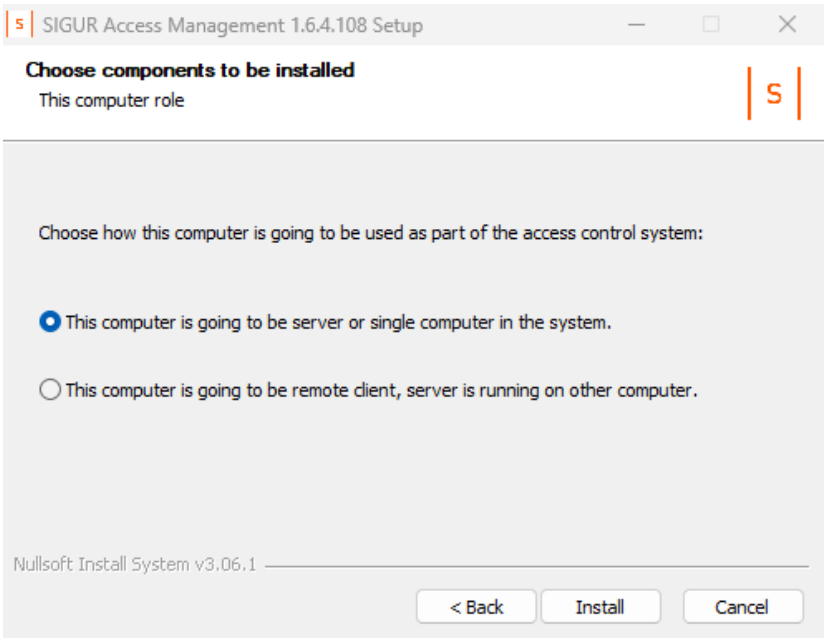
License Agreement window.

3. Choose the install location.



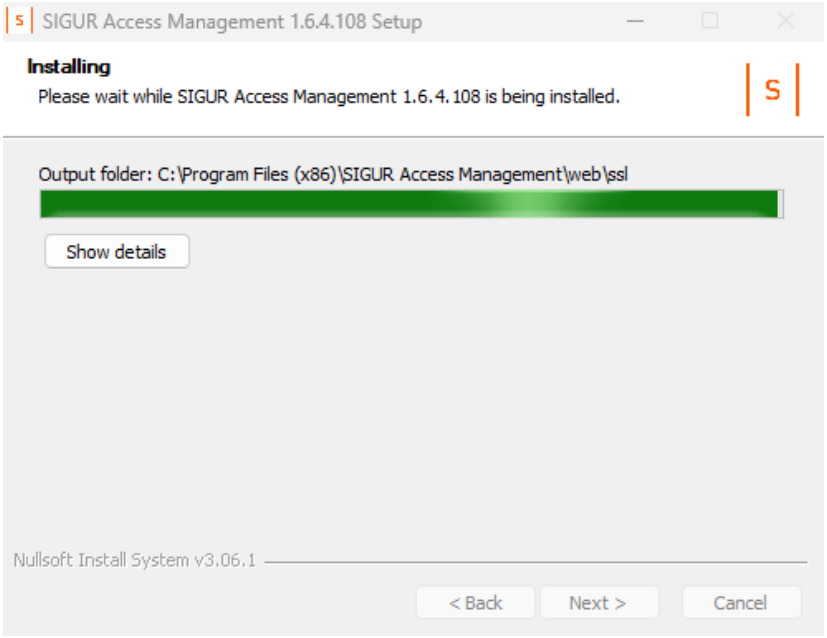
Choose Install Location window.

4. Choose components to be installed.



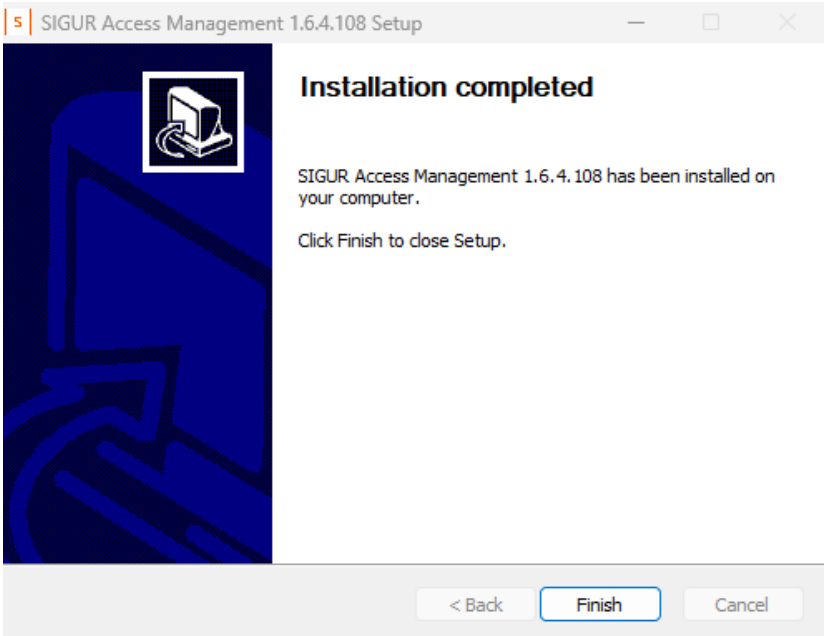
Choose components to be installed window.

5. The Installing window appears and displays the installation progress.



Installing window.

6. When installation is complete, the Installation completed window appears. Click Finish to exit the installer.



Installation completed window.

3.1.2. Linux

Make sure your system meets the requirements before installing the software.

1. Installing dependencies.

To ensure proper operation of the Sigur system, the following utilities are required: *sudo*, *openssl*, and Java 17.

1.1. sudo.

To check whether *sudo* is installed on the server, run the following command:

```
sudo
```

If the utility is not found, you will see a corresponding error message. To install the utility, use the following command:

Debian	*apt install sudo*
RHEL	*yum install sudo*

1.2. openssl.

To check the version of *openssl*, use the following command:

```
openssl version
```

If the utility is not found, you will see a corresponding error message. To install the utility, use the following command:

Debian	*sudo apt install openssl*
RHEL	*sudo yum install openssl*

1.3. Java 17.

To install and use the Sigur software, make sure that the installed Java version meets the minimum requirements. Sigur software version 1.6.4.x is compatible with Java 17. To check the version of Java, use the following command:

```
java -version
```

To install Java 17, you can use the following commands:

Debian	*sudo apt update* *sudo apt install openjdk-17-jre*
RHEL	*sudo dnf check-update* *sudo dnf install java-17-openjdk*

You can also download the installation files using the link.

2. Installing and configuring the database.

The Sigur system can use either MariaDB or PostgreSQL as the database server. This guide provides recommendations for configuring MariaDB.

2.1. Standard database configuration.

2.1.1. Install the MariaDB server:

Debian	*sudo apt-get install mariadb-server*
RHEL	*sudo yum install mariadb-server*

2.1.2. To ensure proper operation, disable case sensitivity in the database server settings.

To do this, you need to edit the *lower_case_table_names* parameter. This text parameter may be located in one of the database server's configuration files in the */etc/mysql/** directory. The name of the configuration file may vary depending on the system, database server build version, and other factors.

For example, the parameter may be located in */etc/mysql/mariadb.conf.d/50-server.cnf* (Debian-based Linux) or in */etc/my.cnf.d/mariadb-server.cnf* (RHEL) within the *[mysqld]* section.

Find the *[mysqld]* section in the file and add or modify the *lower_case_table_names* parameter as follows:

```
[mysqld]
lower_case_table_names=1
```

Save and close the file. Next, restart the server using the following command:

```
sudo systemctl restart mariadb
```

or use the command:

```
sudo service mysql restart
```

2.1.3. Create a user on the database server that will be used by the ACS server. Grant all privileges to access *TC-DB-MAIN, TC-DB-LOG, AUTH, EVENTS, NOTIFICATION, VISITREQUEST* databases. The database names *TC-DB-MAIN* and *TC-DB-LOG* must be enclosed in backticks (`) when used in queries.

For example, the following commands create a user named *sigur* with the password *my_password*:

```
mysql
MariaDB [(none)]> CREATE USER 'sigur'@'%' IDENTIFIED BY 'my_password';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON `TC-DB-MAIN`.* TO 'sigur'@'%';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON `TC-DB-LOG`.* TO 'sigur'@'%';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON AUTH.* TO 'sigur'@'%';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON EVENTS.* TO 'sigur'@'%';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON NOTIFICATION.* TO
'sigur'@'%';
MariaDB [(none)]> GRANT ALL PRIVILEGES ON VISITREQUEST.* TO
'sigur'@'%';
MariaDB [(none)]> FLUSH PRIVILEGES;
```

2.2. Settings for remote workstation connections.

If the clients are intended to connect to the server remotely, grant permission to connect from other hosts in the settings of the database server. In the latest versions of MariaDB, this can be done by editing the *bind-address* parameter. You can find this text parameter in one of the configuration files of the */etc/mysql/** folder.

The file name may vary depending on the system and database server version. For instance, it can be found in the */etc/mysql/mariadb.conf.d/50-server.cnf* file in the *[mysqld]* section.

Set the value of the parameter as follows:

```
bind-address=0.0.0.0
```

Next, restart the server using the following command:

```
sudo systemctl restart mariadb
```

3. Installing Sigur software.

The latest package versions are available on our website.

3.1. Installing core packages.

Packages required for installation on the ACS Server:

- **spnxclient** – client package.
- **spnxserver** – server package (depends on the web services package).
- **deb-installer** or **sigur-web-services** – web services package (depends on the client and server packages).

Optional packages:

- **spnxclient-libs** – an optional .rpm-package containing client libraries for working with desktop readers such as ACR1252U, Sigur Reader EH, and others via PC/SC. This package is not required for installation. For example, it can be omitted on the server if the client workstation will not use desktop readers. Depends on the *spnxclient* package.

Debian	Download and install: 1. The ACS client package and all its dependencies (*spnxclient* package). *sudo dpkg -i spnxclient_*all.deb* 2. The ACS server package and all its dependencies (*spnxserver* package). *sudo dpkg -i spnxserver_*.deb* 3. The ACS web services package and all its dependencies (*deb-installer* package). *sudo dpkg -i deb-installer_*.deb* If you plan to use a desktop USB reader ACR1252U on this computer, complete the steps described in section 3.2.2.
RHEL	Download and install the client, server, and web services packages. If you plan to use desktop USB readers on this computer, also install the *spnxclient-libs* package. After that, if necessary, complete the steps described in section 3.2.2. Example command to install all components: *sudo rpm -i spnxclient-1*.rpm spnxclient-libs*.rpm spnxserver*.rpm sigur-web-services*.rpm*

3.2. Installing additional packages.

If you are planning to use the HASP key, install the HASP driver (Sentinel LDK and Sentinel HASP Run-time Environment DEB Installer for Linux). Download the driver archive from the official website of the manufacturer.

Extract the driver from the archive and install it:

```
tar -zxf Sentinel_LDK_Linux_Run-time_Installer_script.tar.gz && cd
Sentinel_LDK_Linux_Run-time_Installer_script
tar -zxf $(find . -maxdepth 1 -name "aksusbd*.tar.gz" -type f)
cd aksusbd*/
sudo ./dinst
```

3.2.2. If you are planning to use an ACR1252U desktop reader with this computer, you will also need to:

- Install *pcscd* and its libraries. To do this, you can use the following command:

Debian	*sudo apt-get install pcscd* *sudo systemctl enable pcscd* *sudo systemctl start pcscd*
RHEL	*sudo yum install pcsc-lite* *sudo systemctl enable pcscd* *sudo systemctl start pcscd*

- Install the driver for the ACR1252U reader. Download the archive with the drivers from the official website of the manufacturer. The archive contains drivers for different distributions and architectures. Find the driver for your system and install it.

  Below is an example of how to do it:

Debian	Example for Ubuntu 18.04 (Bionic Beaver) amd64: *wget "https://www.acs.com.hk/download-driver-unified/11929/ACS-Unified-PKG-Lnx-118-P.zip"* *unzip ACS-Unified-PKG-Lnx-118-P.zip* *sudo dpkg -i ACS-Unified-PKG-Lnx-118-P/ubuntu/bionic/libacsccid1_1.1.8-1~ubuntu18.04.1_amd64.deb*

RHEL	Example for Fedora Linux 36 (Server Edition): *wget 'https://www.acs.com.hk/download-driver-unified/11929/ACSUnified-PKG-Lnx-118-P.zip'* *unzip ACS-Unified-PKG-Lnx-118-P.zip* *sudo dnf install ACS-Unified-PKG-Lnx-118-P/fedora/31/pcsc-lite-acsccid-1.1.8-1.fc31.x86_64.rpm*

4. Configuring the database connection.

- Launch the Server Administration tool from the menu of your desktop environment, or by using the following command:

```
sudo spnxadmin
```

- On the Database tab, click Parameters.
- Enter the database server connection parameters (such as the server address, port (default for MariaDB: 3306), username, and password). Save the settings and close the window.
- On the Database tab click Reset / create database. Make sure the database creation process has completed without errors and that the Service's DBs Status parameter is OK.
- Go back to the database server connection parameters window and click Connection test. Make sure that the test is successful. Otherwise, verify the database connection details.

5. Starting the server module.

After configuring the database connection, start the server module to complete the system setup. To do this, go to the Status tab in the Server Administration tool and click Start, or run the following command:

```
spnxcli service startSphinxd
```

6. Launching the client software.

To start the Client tool, run the following command:

```
spnxclient
```

3.2. Sigur system update

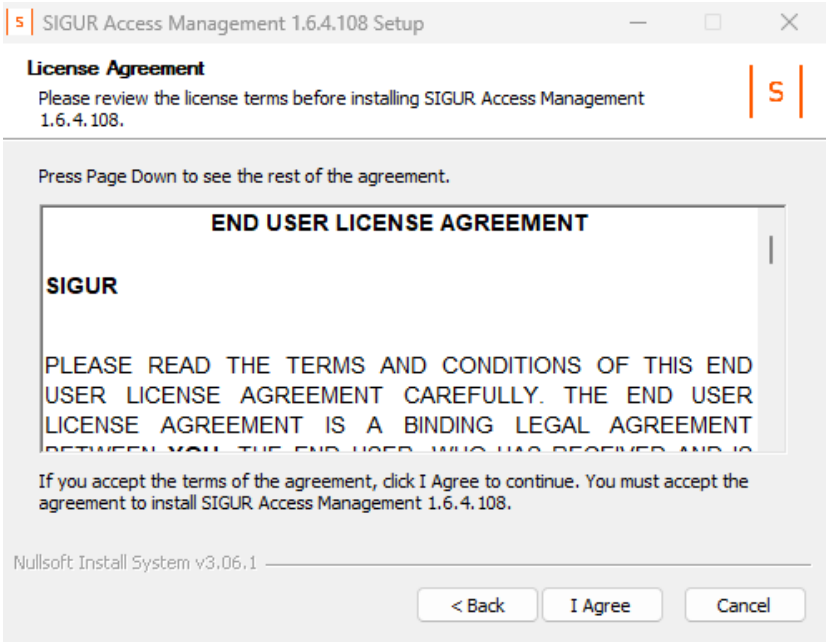
This section describes the procedure for updating the Sigur software on different operating systems.

You can update the software without uninstalling the previous version.

3.2.1. Windows

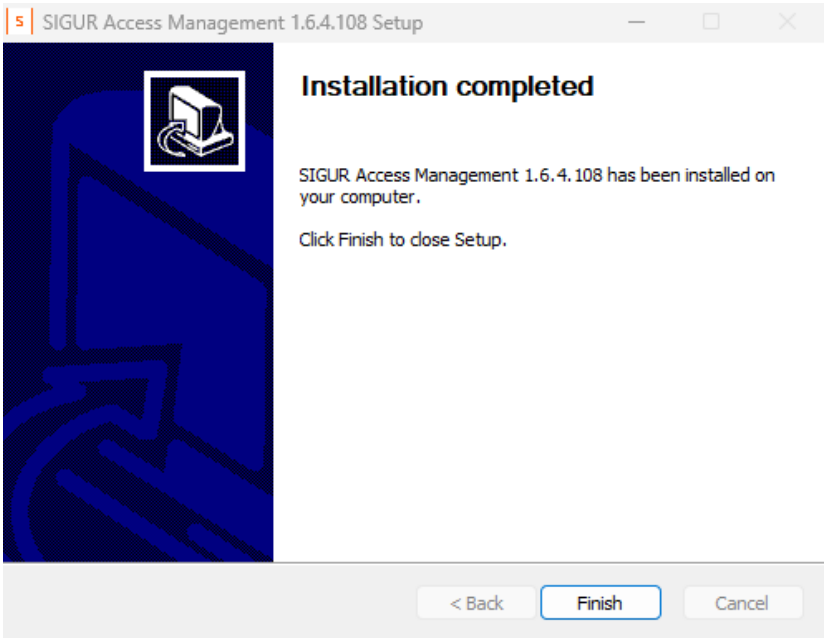
To update the Sigur software, follow these steps:

1. Download the latest version of the Sigur software from our website.
2. Back up the database.
3. Close all open windows of the Sigur software on the server and run the sigur-X.X.X-X-web-setup.exe file (X.X.X-X is the version number, e.g., sigur-1.6.4-108-web-setup.exe).
4. Read and accept the license agreement.



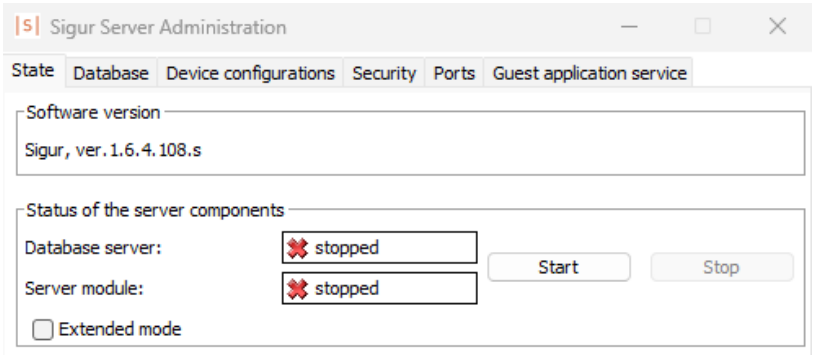
License Agreement window.

5. Click Next.
6. When the update is complete, the Installation completed window appears. Click Finish.



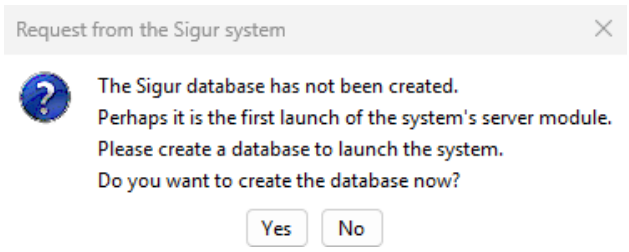
Installation completed window.

7. Start the Server Administration tool and click Start on the State tab.



Server Administration tool.

8. The application will prompt you to update the database. Click Yes.



Request window.

9. Once the software has been updated on the server, restart the Client tool on each client workstations to trigger an automatic update. If certain security policies are configured in the operating system, make sure the Sigur software has access to:

- The software installation directory.
- The *HKLM\Software\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall\ACS Sphinx* registry branch.

Alternatively, you can update the client workstations manually, following the same procedure as for the server.

3.2.2. Linux

To update the Sigur software, follow these steps:

1. Backing up the database.

Back up the database. Follow the link for instructions.

2. Stopping the server module.

Stop the server module by clicking the Stop button on the State tab in the Server Administration tool, or by running the following command:

```
spnxcli service stopSphinxd
```

You can check the system status by running the following command:

```
spnxcli service status
```

After that, close all Sigur graphical interface windows, if any are open.

3. Removing the previous Java version.

Sigur software (starting from version 1.6.3.x) requires Java 17. You can check the installed Java version by running the following command:

```
java --version
```

If the Java version is not 17, it must be reinstalled. For example, to remove Java 11 before installing a new version, run the following commands:

Debian	*sudo apt purge openjdk-11**
RHEL	*sudo yum remove java-11**

4. Installing Java 17.

Example commands for installing Java 17:

Debian	*sudo apt-get update* *sudo apt-get install openjdk-17-jre*
RHEL	*sudo yum update* *sudo yum install java-17-openjdk*

Check the installed Java version. The command must display information about Java version 17:

```
java --version
```

5. Updating the Sigur software.

Download the latest software packages and run the commands shown below (example). The latest package versions are available on our website.

Debian	Execute the commands in sequence: *sudo dpkg -i spnxclient_1.6.** *sudo dpkg -i spnxserver_1.6.** *sudo dpkg -i deb-installer_1.6.**
RHEL	List all upgradable packages: *sudo rpm -U spnxclient-1.6.* spnxserver-1.6.* spnxclient-libs-1.6.* sigur-web-services-1.6.**

6. Starting the Sigur server.

After the update is complete, start the server module by clicking Start on the State tab in the Server Administration tool, or by running the following command:

```
spnxcli service startSphinxd
```

7. Updating the database version.

If required, update the database version by clicking Update on the Database tab in the Server Administration tool, or by running the following command:

```
spnxcli database update
```

8. Updating client workstations.

Sigur client workstations running Linux must be updated manually, as automatic updates are not supported. Example commands:

Debian	*sudo dpkg -i spnxclient_1.6.**
RHEL	List all upgradable packages: *sudo rpm -U spnxclient-1.6.* spnxclient-libs-1.6.**

4. Server administration tool

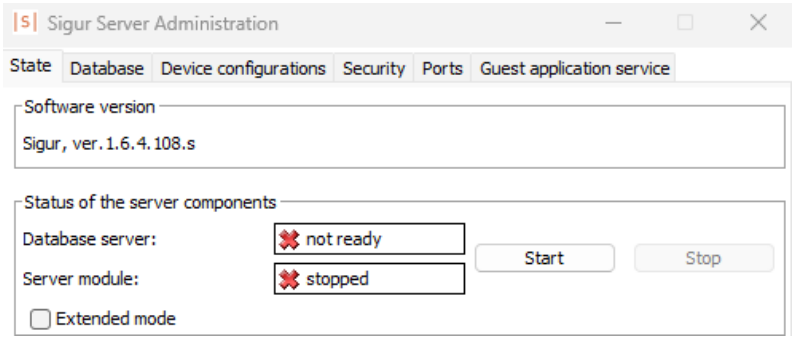
The Server Administration tool is designed to monitor the status of server components, configure database backup, edit controller network settings, etc.

4.1. First launch of Sigur software

The Server Administration tool is launched via the Server Administration shortcut in the Start menu under All apps → Sigur Access Management.

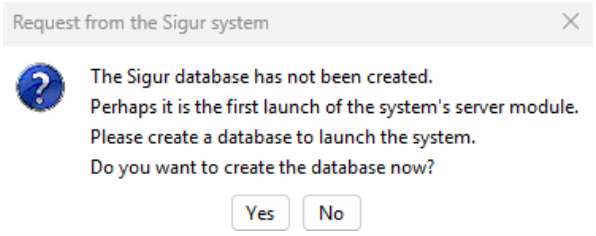
4.2. Server and database modules management

Start the server module and the database server by clicking Start on the State tab.



State tab.

When you start the database module for the first time, a window will appear prompting you to create a new database.



Request window.

Click Yes to create a database. The database is created only once; subsequent launches do not display this prompt. If you click No, the database server starts, but the other software components will not work.

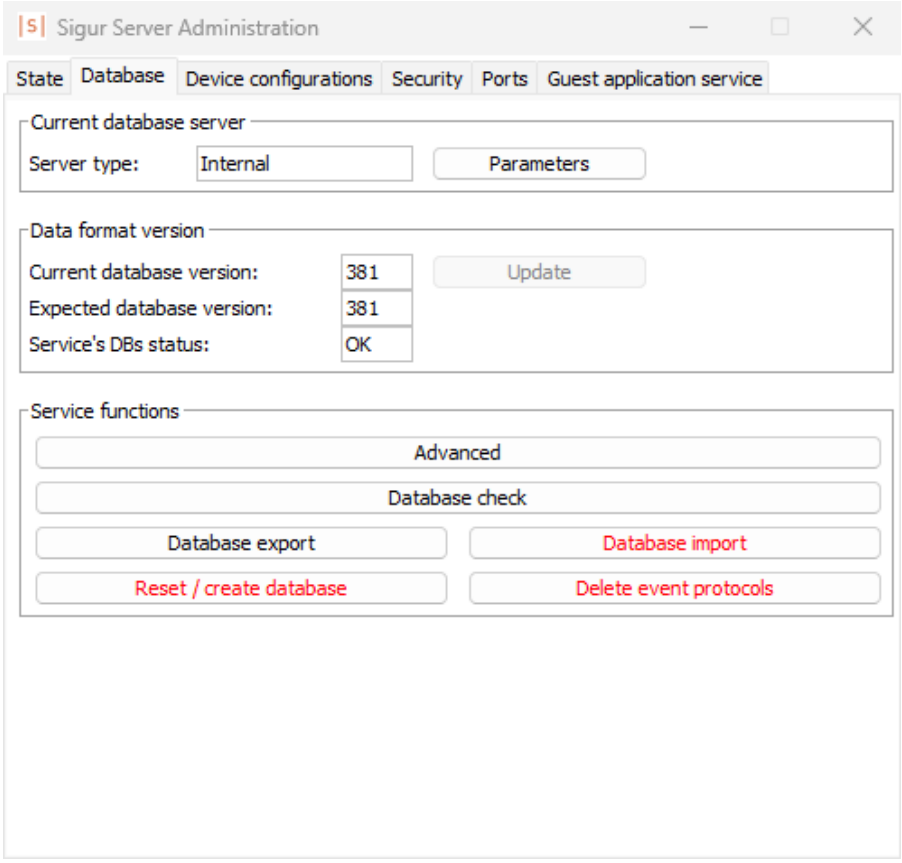
You can also create the database by clicking Reset / create database on the Database tab.

To stop the server module and the database server, click Stop.

4.3. Automatic database backup

Automatic database backup and other service features are available only when the Sigur ACS server is deployed on Windows. On Linux, the database backup must be done manually using standard database server tools.

To configure automatic database backup on Windows, go to the Database tab and click Advanced.

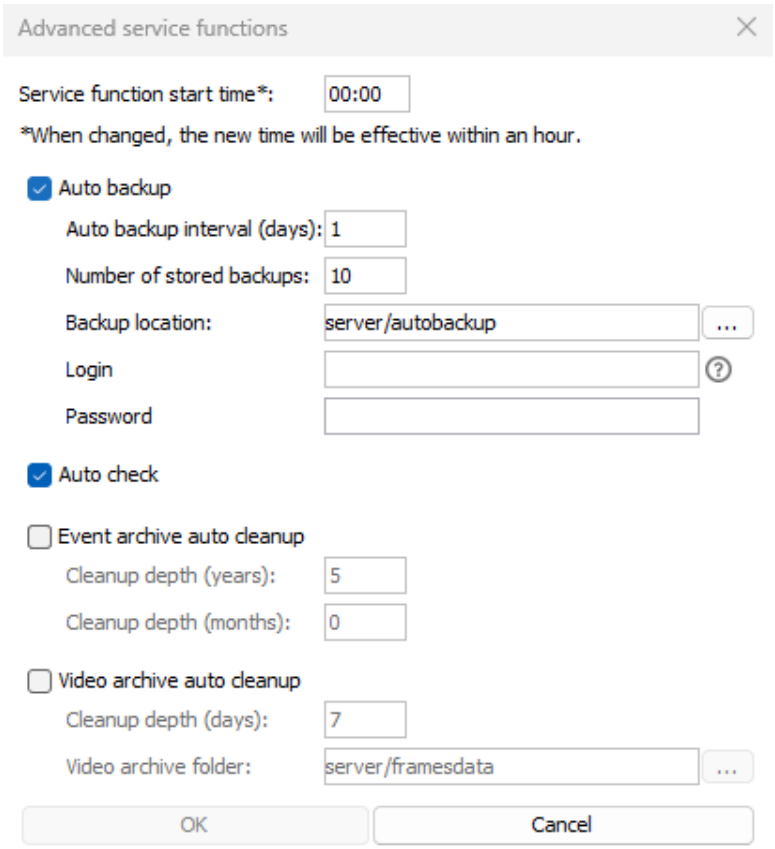


Database tab.

In the window that appears:

1. Enable the Auto backup.
2. Specify the backup interval (from 1 to 999). This defines how often the database is backed up.
3. Specify the maximum number of backup copies (from 1 to 999) that the software should keep. If this number is exceeded, old copies are automatically deleted.
4. You can change the backup location if needed. It is recommended that the backups are stored on a different physical drive, or at least on a different logical drive. By default, backups are stored in the software installation directory:
   ...\SIGUR Access Management\server\autobackup,

where ... is the software installation path (usually C:\Program Files (x86)).



Advanced service functions window.

The format of the backup files is YYYY-MM-DD.sql. The filename defines the year, month, and day of the backup.

It is also recommended to enable Auto check. The system will perform an automatic database check once a day, starting this procedure at the Service functions start time configured by the user (00:00 by default).

4.4. Manual import and export of the database

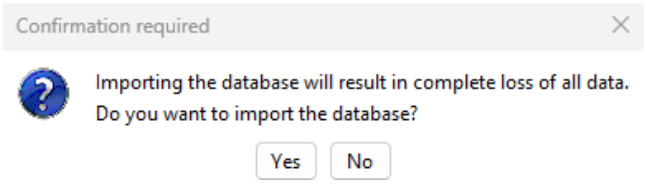
Windows.

To manually back up the Sigur database, you should:

1. Start the Server Administration tool and go to the Database tab.
2. Click the Database export.
3. Select a location to save the file, enter a file name, and click Save.
4. Go to the State tab and click the Start button to initiate the backup process.

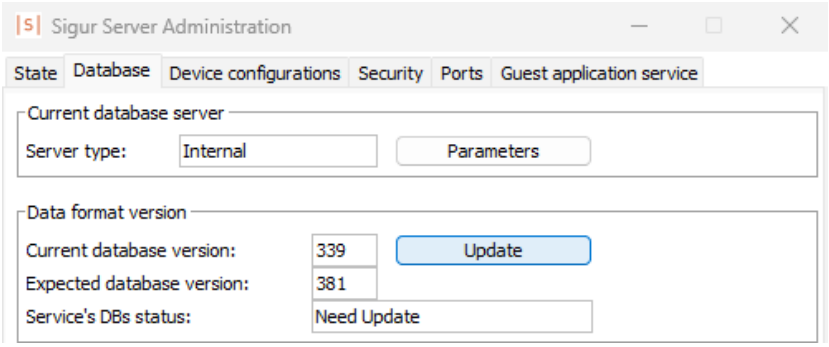
To import a database backup, you should:

1. Start the Server Administration tool and click the Database tab.
2. Click Database import.
3. Click Yes in the confirmation window.



Confirmation required window.

4. Select a backup file to import.
5. When the import is complete, check the compatibility between the current database version and the required version. If the current database version is earlier than the required version, click Update in the Data format version block.



Database tab.

Linux.

On Linux, database management is performed using standard MySQL tools.

- You can use the following command to back up the database:

```
mysqldump -u <user> -P 3306 -p <userpass> -B TC-DB-MAIN TC-DB-LOG AUTH EVENTS NOTIFICATION VISITREQUEST > backup.sql
```

- You can use the following command to import the backup:

```
mysql -u <user> -P 3306 -p <userpass> < backup.sql
```

where:

- *<user>* is the database username;
- *<userpass>* is the password of that user;
- *backup.sql* is the backup file name.

If the backup file was originally created on a Windows machine running Sigur ACS, ensure that case sensitivity is disabled in the database server settings.

5. Controller network settings

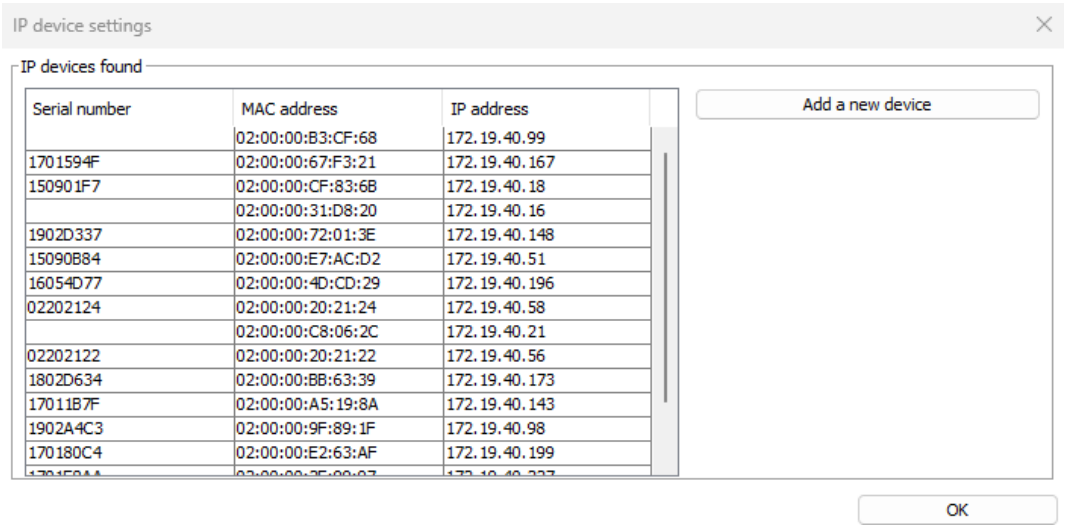
5.1. Setting up a controller's network parameters

To configure the network parameters of the controllers and view the Sigur devices currently available on the network, go to the Device configurations tab and click Set up IP devices.

Device configurations tab.

The window that appears shows detected Sigur controllers with configured network settings. The controllers are discovered through broadcast requests on UDP port 3303. Both the controllers and the PC running the Server Administration tool must be on the same local network segment.

Sigur E510, E2, and E4 controllers can be configured without using Add a new device, as this button is intended for models from previous series of controllers.



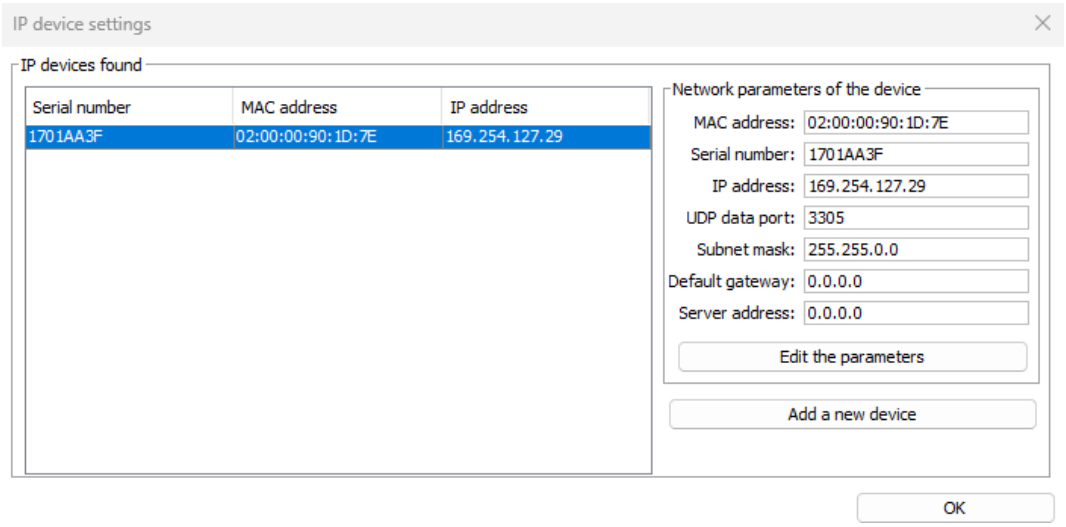
IP device settings window.

The Server Administration tool can be started either fromthe Sigur ACS server or from any other PC. In this case, it is not necessary to start the server components:

the Device configurations tab works independently and does not require a license. Your computer must be configured to use IPv4.

When a specific device is selected from the list, its current network parameters are displayed in the right pane of the window, and Edit the parameters becomes available.

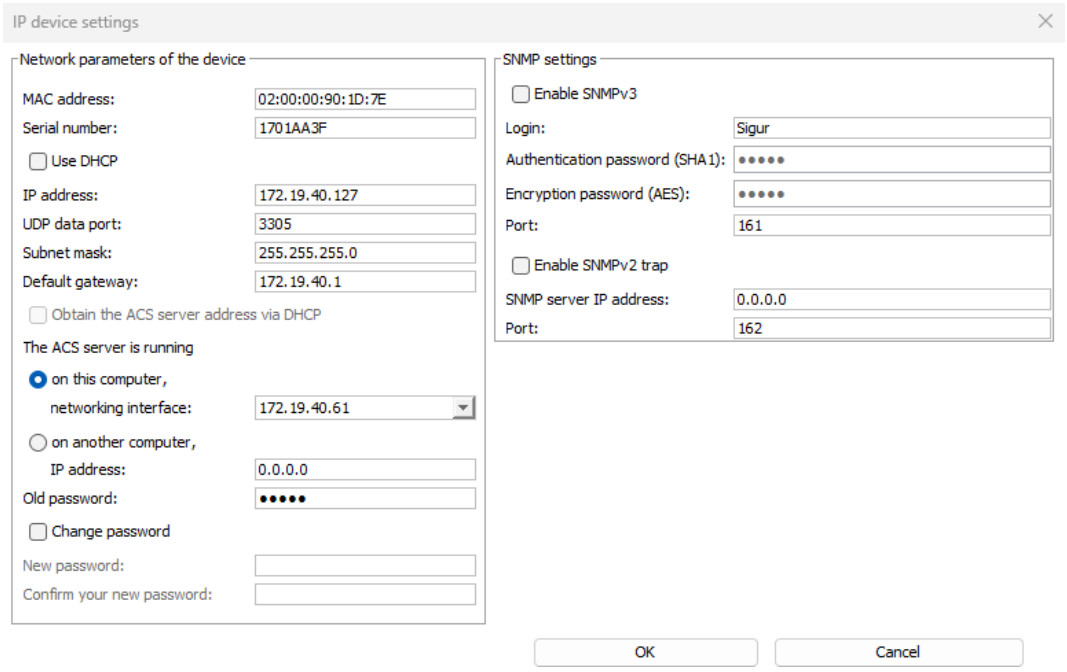
By default, the option to obtain network settings via DHCP is enabled on the controller, and is automatically enabled after resetting the device's network parameters. If there is no DHCP server running on the network where the controller is located, the controller will automatically assign itself an IP address in the range 169.254.xxx.xxx (where xxx is a number from 1 to 254).



Example of controller network parameters when first connected to the network.

Controllers can be configured either to operate with amanually assigned static IP address or to obtain network parameters dynamically from a DHCP server. To manually configure the controller's network parameters, follow these steps:

1. Select the controller from the list and click Edit the parameters. If prompted, enter the device password (default: sigur), then click OK.
2. Clear the Use DHCP and Obtain the ACS server address via DHCP options.
3. Set the IP address, subnet mask, and default gateway manually.
4. Specify where the Sigur server is running: on this PC (select the network interface address on this computer) or on another PC (enter the IP address of the server).
5. If necessary, you can change the device password. To do so, enter the current password, then enter the new password and confirm it. Click OK to save the changes.



Static IP parameters.

5.2. Obtaining network parameters via DHCP

To enable the controller to obtain network parameters via DHCP:

1. Start the Server Administration tool on a computer on the same subnet as the controller.
2. Go to the Device configurations tab.
3. Select the controller from the list and click Edit the parameters. If prompted, enter the device password (default: sigur), then click OK.
4. Enable Use DHCP and, if necessary, Obtain the ACS server address via DHCP option. The manual entry fields for the network settings become inactive.
5. Click OK to save the changes.

In general, no additional configuration is required on the DHCP server to assign network parameters to the devices.

If the controller is also to obtain the Sigur server's IP address via DHCP, ensure the following:

- When the DHCP server receives a request with option 60 set to Sigur PACS Unit, it sends 4 bytes of the Sigur server's IP address in option 43, suboption 1 of the response.
- If the controller firmware version is 16 or lower, the DHCP server should send the Sigur server's IP address in reverse byte order.

For example, if it is necessary to provide the controller with the Sigur server's IP address 172.19.40.10, the value of option 43 should be (HEX) 0104AC13280A,

where:

- 01 — suboption number;
- 04 — length of the transmitted payload;
- AC13280A — the Sigur server IP address (HEX) AC 13 28 0A = (DEC) 172 19 40 10.

The DHCP options used by Sigur controllers.

Option number	Option value	Note
1	Subnet mask	The subnet mask of the network where the controller is located.
3	Default gateway IP address	The IP address of the router that provides access to the Internet or to another network where the Sigur server is located.
43	Manufacturer-specific information	This field is used to specify the Sigur server's IP address. The DHCP server should return this information in suboption 1.
60	Vendor ID	= Sigur PACS Unit.

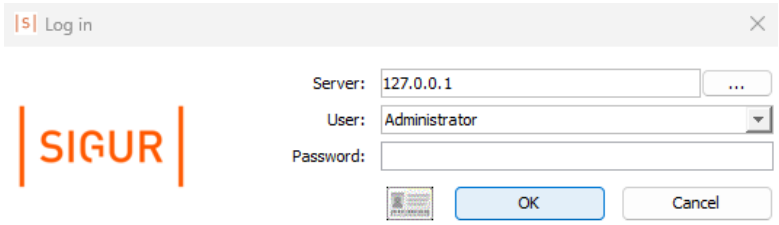
6. Client tool

The Client tool is designed to manage the access control system, manage the cardholder database, generate system reports, etc.

6.1. First launch of the Client tool

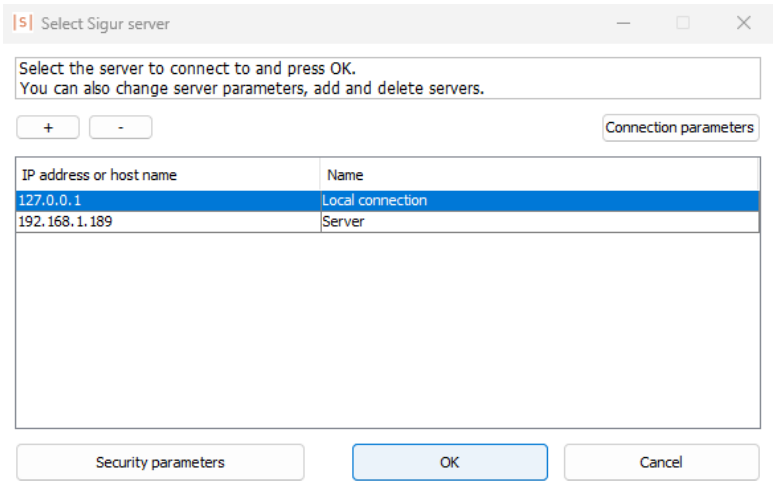
The application is started using the Client shortcut. You can find it in the Start menu under All apps → Sigur Access Management.

When the Client tool is started for the first time, it tries to connect to the server running on the local computer. If the connection is successful, the Log in dialogue box appears. Select the user name (Administrator) and click OK. By default, the Administrator user has no password. This can be configured later.



Log in window.

If the Client tool cannot connect to a server on the local computer, it prompts you to connect to another server. If the server is running on another computer, click ... next to the Server field and enter its IP address.



Select Sigur server window.

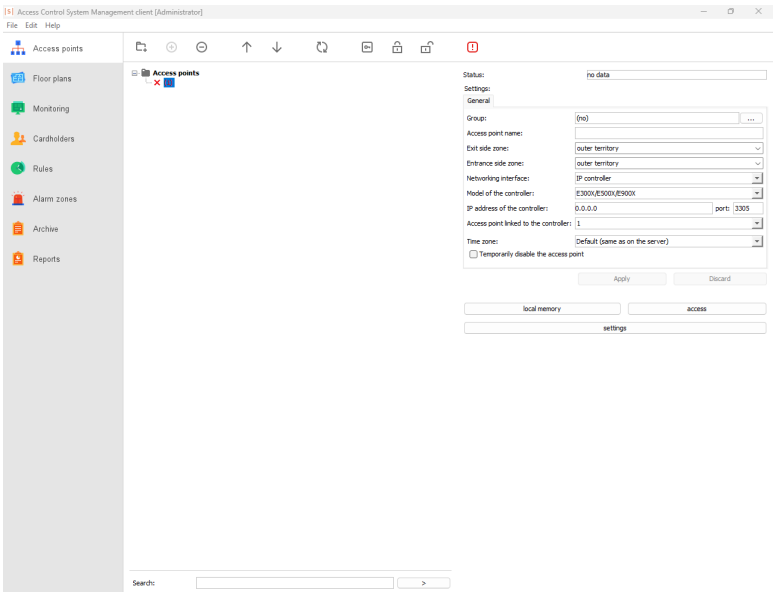
In the opened Select Sigur server window, click + to add a server. Enter its domain name or IP address and, optionally, a display name. To remove a server, select it from the list and click −.

After adding the server address, select it from the list and click OK.

6.2. Client tool main window

Once you have successfully connected to the server, the Client tool opens. The Access points tab is the first tab you see when you start the tool. The title bar displays the application title Access Control System Management client, and the name of the current user.

All Client tool functions are divided into several tabs. The tab selection buttons are located on the left side of the window. To switch to another tab, click the corresponding button. The currently open tab is highlighted.

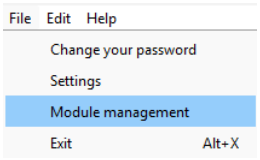


First launch of the Client tool.

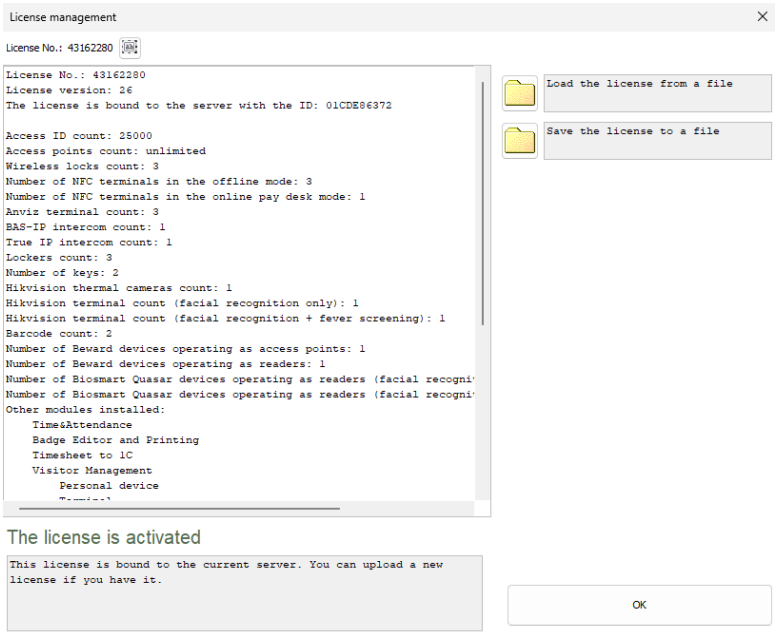
7. Software licensing

Each module of the Sigur software is subject to a license. All licensed software modules are integrated into a single software interface. If required, the functionality of the system can be extended by adding new modules to the already installed license.

If the Sigur server cannot detect a license, only basic functionality and management of a single access point (a free module) will be available. To view information about the current license, start the Client tool and go to File → Module management.



File → Module management menu.



License management window.

7.1. Downloading and activating the software license

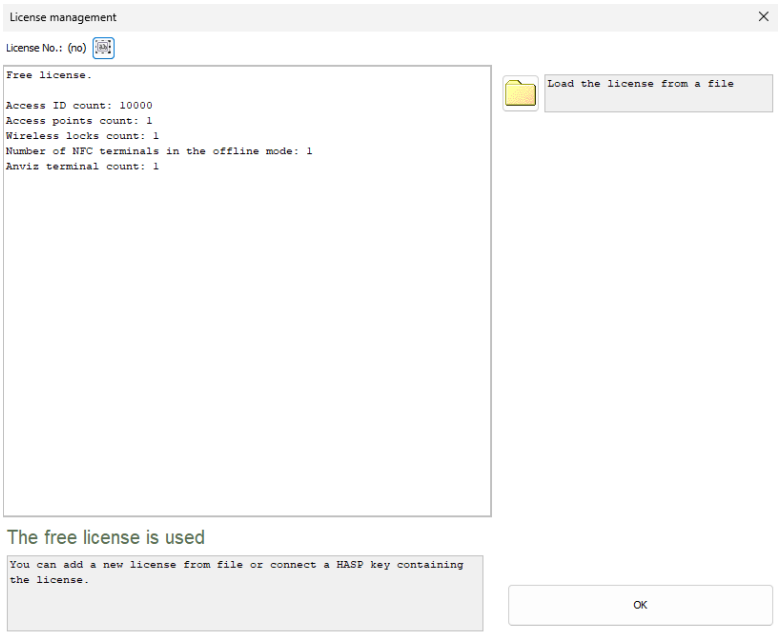
After purchasing the license, the buyer receives a file named license_number_1.lic.

To upload the license, follow these steps:

1. Start the Client tool and connect to the Sigur server where you want to activate the license. If the Sigur server is deployed on a local PC, connect to

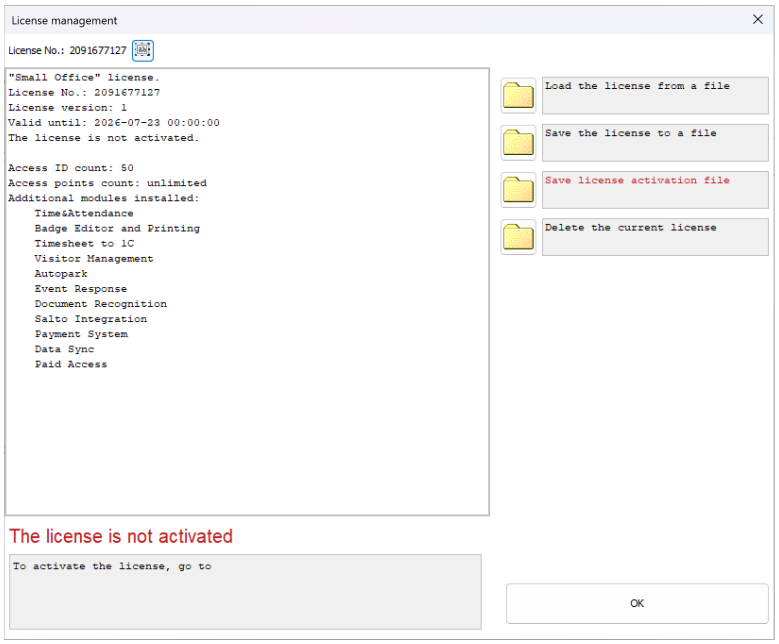
localhost.

2. Go to the File → Module management. The software comes with a free license by default.



Free license.

3. Click Load the license from a file.
4. Select the license file in the window that opens and click Open. The license status changes to License is not activated.



License is not activated message.

5. Click Save license activation file and save the generated .req file.
6. Send this file to your contact person at Sigur or to your local distributor. To find a distributor in your area, visit our website.
7. You will receive a new license file (.lic). Upload it to the server using Load the license from a file in the License Management window. The license status changes to License is activated.
8. Restart the Client tool.

The license is bound to the configuration of the PC where the Sigur server is deployed. If any violations are detected in the installed license, a corresponding message will be displayed at the bottom of the Client tool window. Click the message to open a window with more detailed information.

License limit is exceeded message.

7.2. Transferring a license to another server

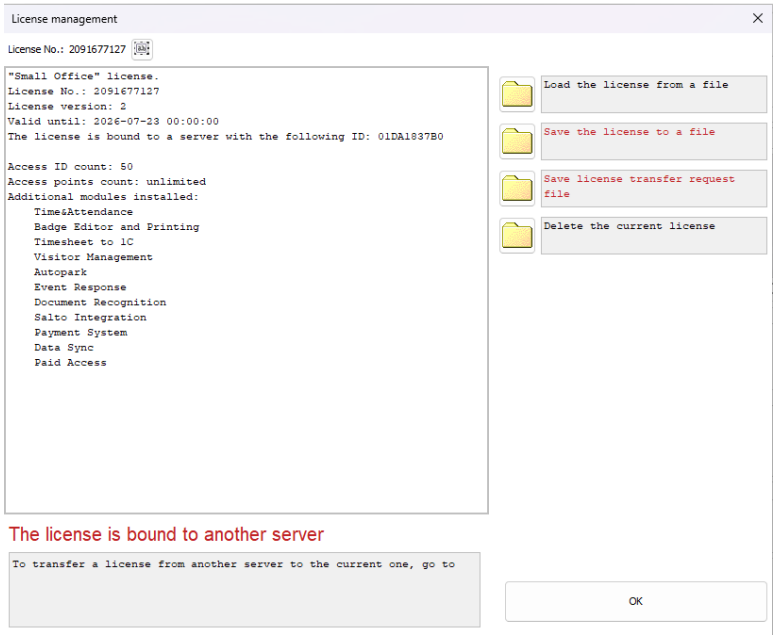
License transfer requires interaction with your Sigur contact person or local distributor, as license files must be exchanged during the process. To find a distributor in your area, visit our website.

To transfer the license to a new server, do the following:

1. Start the Client tool on the PC where the old Sigur server is deployed. Go to the File → Module management menu and click Save the license to a file button. Save the file and transfer it to the new server.

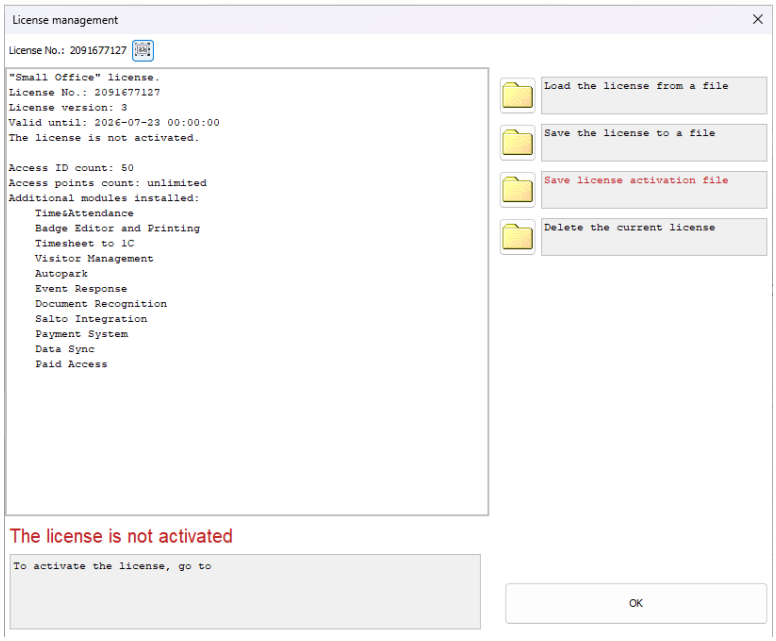
2. On the new server, similarly go to File → Module management menu and click Load the license from a file. Load the file created in the previous step.

3. Once the license file has been loaded, the license status on the new server will change to License is bound to another server. Click Save license transfer request file and save the generated .req file.



License is bound to another server message.

4. Send this file to your contact person at Sigur or to your local distributor.
5. You will receive a new license file (.lic). Upload it on the new server using Load the license from a file. The license status will change to License is not activated.



License is not activated message.

6. Click Save license activation file and save the generated .req file. Send this file to your contact person at Sigur or to your local distributor.
7. You will receive the final license file (.lic). Load it on the new server using Load the license from a file in the License Management window. The license status will change to License is activated.

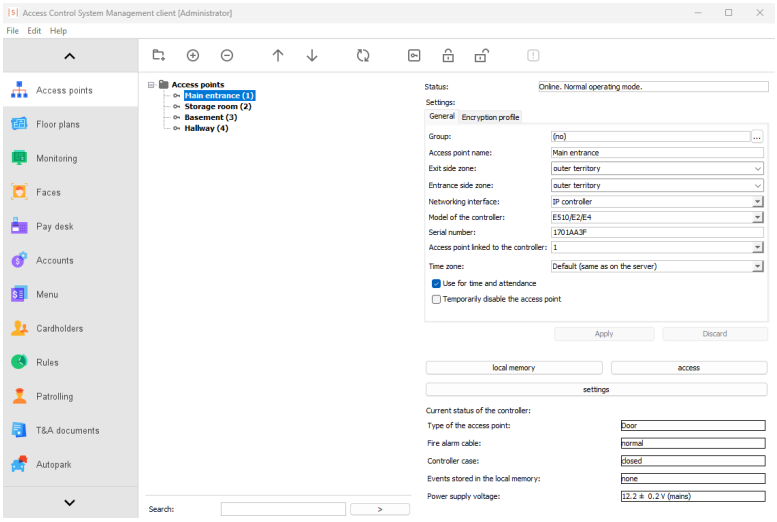
8. Restart the Client tool on the new server. The license has been successfully transferred.

8. Access points

The Access points tab is used for access point management and controller configuration.

An access point can be any access control device (door, turnstile, gate, etc.), or it can be no access control device, for example if the access point is used to register system events.

All access points in the system are listed with their name, communication status and overall status. There are buttons at the top of the window to create a new group of access points and to add or remove access points associated with a particular controller.



Access points tab.

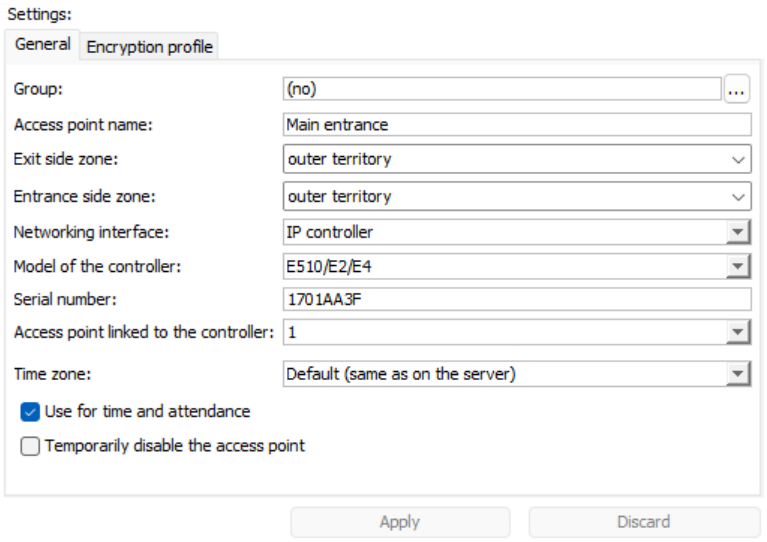
8.1. Establishing connection with access points of a controller

After installing the software, there is already an access point on the Access points tab with no configuration set. Let's configure it to manage an access control device. First, you need to associate the access point with a controller and establish a connection.

Select the access point in the list. In the Settings → General block on the right side of the window, configure the following parameters:

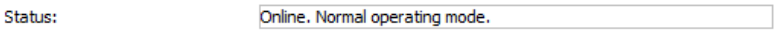
1. Enter any name for the access point.
2. In the Networking interface drop-down list, select IP controller.
3. In the Model of the controller drop-down list, select E510/E2/E4.
4. Enter the controller serial number.
5. In the Access point linked to the controller drop-down list, select 1.

6. Click Apply.



General settings of an access point.

The access point status changes to Online.

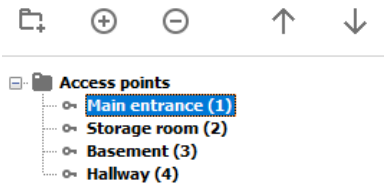


Connection status.

To establish a connection with an access point, the Sigur server and controller must be able to exchange data in both directions via UDP port 3305 (default).

The number of access points on the Access points tab should correspond to the number of access control devices connected to the controllers. You can connect up to four access control devices to Sigur E510 and E4 controllers and up to two devices to the Sigur E2 controller.

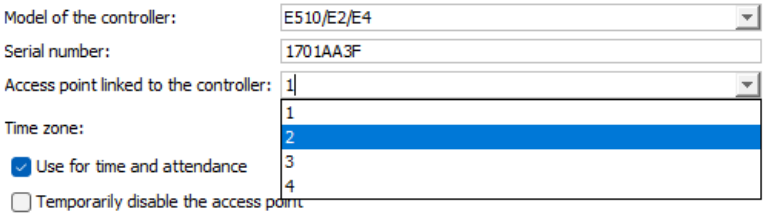
To create new access points, click + on the top toolbar of the Access points tab. If the + button is unavailable, you may be using a free license.



Access points list.

For each access point, do the following:

1. Enter the serial number of the controller.
2. If there are several access points corresponding to one controller, number them in sequence in the Access point linked to the controller parameter, starting from 1.



Access point linked to the controller drop-down list.

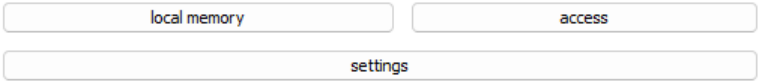
Let's consider the following case:

You have two controllers 150XXXXX and 160XXXXX . You have connected two doors to 150XXXXX and gates to 160XXXXX. In this case, you will need to create 3 access points and make the following settings:

Door 1	Door 2	Gates
Serial number: 150XXXXX.	Serial Number: 150XXXXX.	Serial Number: 160XXXXX.
Access point linked to the controller: 1.	Access point linked to the controller: 2.	Access point linked to the controller: 1.

8.2. Configuring a controller to manage access points

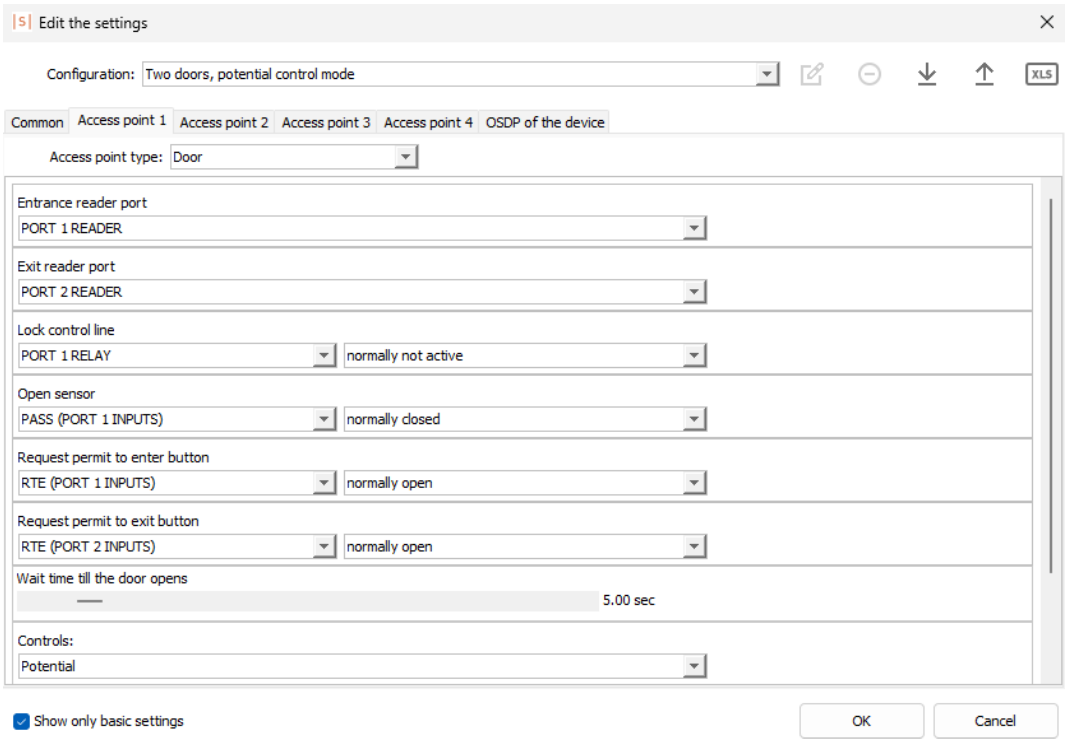
Once the connection to the access point has been established, it is necessary to configure the inputs and outputs of the controller. To do this, go to the Doors tab, select the access point from the list and click Settings.



Settings button.

In the window that opens, you can assign different functions to the controller's terminals. To view the full list of settings, clear the Show only basic settings checkbox.

We recommend that you use one of the default configurations to manage access control devices. To do this, click on the drop-down list in the Configuration section and select the appropriate option.



Settings edition window.

The set of default configurations may vary depending on the controller model.

Default configurations for access points.

Configuration name	Description	E2	E4	E510
Time and attendance terminal	The controller operates as a single time and attendance terminal, recording time of entry and exit. Management of access control devices is not available.	✓		
Two time and attendance terminals	The controller operates as two time and attendance terminals, recording time of entry and exit. Management of access control devices is not available.		✓	✓
Door, potential control mode	The controller manages one Door-type access point with a potential- or pulse-controlled lock.	✓		
Door, pulse control mode				
Two doors, potential control mode	The controller manages two Door-type access points with potential- or pulse-controlled locks.	✓	✓	✓
Two doors, pulse control mode				
Four doors, potential control mode	The controller manages four Door-type access points with potential- or pulse-controlled locks. Each door has an entry reader and an exit button.		✓	✓
Four doors, pulse control mode				
Turnstile, potential control mode	The controller manages one Turnstile-type access point with a potential- or pulse-controlled turnstile.	✓	✓	✓
Turnstile, pulse control mode				
Two turnstiles, potential control mode	The controller manages two Turnstile-type access points with potential-controlled turnstiles.		✓	✓

Configuration name	Description	E2	E4	E510
Arm barrier / gate, Open, Close, Stop logic	The controller manages one Gates-type access point using Open, Close, Stop or Direct Control logic.		✓	✓
Arm barrier / gate, Direct Control logic				

Barrier mechanisms (turnstiles, gates, etc.) typically have one or more control inputs. Pulse-controlled devices require a short pulse signal on the corresponding input in order to execute a command. Potential-controlled devices require a continuous signal on the corresponding input for the entire duration of the command.

In general, door locks can be controlled by applying or removing power. Electromagnetic locks, for instance, require continuous power to remain locked, whereas electric strikes require only a brief pulse of power to unlock.

For example, if you need to configure the E510 controller to manage one or two doors with electromagnetic locks, select the Two doors, potential control mode default configuration. If you need to connect one or two electric strikes to the controller, select the Two doors, pulse control mode configuration.

You can also make any necessary changes to the configuration manually.

The description of the final controller configuration can be exported to an .xls file and used when connecting devices to the controller. To save the settings file, click XLS at the top of the Edit the settings window.

Toolbar of the Edit the settings window.

8.3. Connecting devices to a controller

8.3.1. Door with electromagnetic lock

Let's explore the process of connecting devices and configuring Sigur E510, E2 and E4 controllers to manage two doors with electromagnetic locks.

To control the devices, select the Two doors, potential control mode default configuration.

Wiring diagrams for connecting doors and other devices to Sigur controllers are

included in the appendix to this manual.

Connecting electromagnetic locks.

The locks are controlled by relays on the controller board. The relays are assigned the function Lock control line, normally not active.

Controller terminals for lock connection.

Controller model	Door	Terminal for lock connection
E510	1st door	K1
	2nd door	K3
E2	1st door	PORT 1 RELAY
	2nd door	PORT 2 RELAY
E4	1st door	PORT 1 RELAY
	2nd door	PORT 3 RELAY

Connecting readers.

The PORT terminals are used to connect readers via the Wiegand interface.If the reader's supply voltage matches the controller's supply voltage (10...15 V) and the maximum current consumption per port does not exceed 200 mA, you can connect the reader's supply lines to the controller's VR+ and GND terminals (or PWR and GND for E2/E4 controllers).

Controller terminals for reader connection.

Controller model	Door	Reader direction	Terminal for reader connection
E510	1st door	Entry	PORT 1
	1st door	Exit	PORT 2
	2nd door	Entry	PORT 3
	2nd door	Exit	PORT 4
E2	1st door	Entry	PORT 1 READER
	1st door	Exit	None, exit by pressing the exit button
	2nd door	Entry	PORT 2 READER
	2nd door	Exit	None, exit by pressing the exit button

E4	1st door	Entry	PORT 1 READER
	1st door	Exit	PORT 2 READER
	2nd door	Entry	PORT 3 READER
	2nd door	Exit	PORT 4 READER

In case of using OSDP readers, please refer to the corresponding section.

Connecting an entry sensor.

An entry sensor detects when someone passes through the door. The function assigned to the terminal is Open sensor, normally closed.

If an entry sensor is not installed, it is necessary to indicate its absence. To do this, go to the Doors tab, select the access point and click Settings. In the window that opens, select not connected, always active for the Open sensor function and click OK. The system will now consider this door as always open. Therefore, after the settings have been applied, the system will record the Break-in event once. This is OK as we have told the system that the door is open.

The system will now record a Pass through an open door event immediately after the card is presented to the reader.

Controller terminals for entry sensor connection.

Controller model	Door	Terminal for entry sensor connection
E510	1st door	D1
	2nd door	D2
E2	1st door	PASS (PORT 1 SENSORS)
	2nd door	PASS (PORT 2 SENSORS)
E4	1st door	PASS (PORT 1 INPUTS)
	2nd door	PASS (PORT 3 INPUTS)

Connecting an exit button.

It is also possible to use a push-button to unlock the door. The function assigned to the terminal is Request permit to exit button, normally open. You can manually

change the normal state of the connected push-button in the controller settings.

Controller terminals for exit button connection.

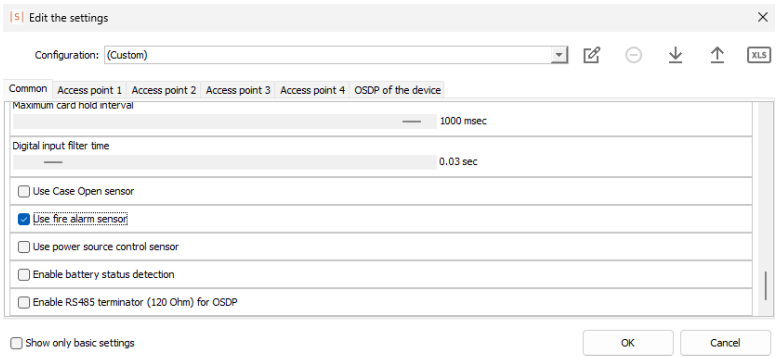
Controller model	Door	Terminal for exit button connection
E510	1st door	D4
	2nd door	D7
E2	1st door	RTE (PORT 1 SENSORS)
	2nd door	RTE (PORT 2 SENSORS)
E4	1st door	RTE (PORT 2 INPUTS)
	2nd door	RTE (PORT 4 INPUTS)

Connecting an emergency release button.

It is also possible to connect a normally closed emergency release button to a Sigur controller. When the button is pressed, the controller switches to Fire! mode and all unlocks all access points connected to the controller.

The wiring diagram for an emergency release button can be found in the appendix to this manual.

The emergency release function is disabled by default. When connecting the emergency door release button, go to the Doors tab, select any access point of a particular controller in the list and click Settings. In the Edit the settings window, go to the Common tab, clear the Show only basic settings checkbox and enable the Use fire alarm sensor function.



Use fire alarm sensor function.

8.3.2. Turnstile

Let's look at connecting devices and configuring Sigur E510, E2 and E4 controllers to manage a single level-controlled turnstile.

To control the devices, select the Turnstile, potential control mode default configuration. Wiring diagrams for connecting turnstiles and other equipment to Sigur controllers can be found in the appendix to this manual.

Connecting a turnstile.

The control lines of the turnstile are connected to the relays on the controller board, with the relays assigned the function Unlock for entry/exit control line, normally not active.

Controller terminals for connecting a turnstile control line

Controller model	Direction	Terminal for connecting a turnstile control line
E510	Entry	K1
	Exit	K2
E2, E4	Entry	PORT 1 RELAY
	Exit	PORT 2 RELAY

Connecting readers.

The PORT terminals are used to connect readers via the Wiegand interface.If the reader's supply voltage matches the controller's supply voltage (10...15 V) and the maximum current consumption per port does not exceed 200 mA, you can connect the reader's supply lines to the controller's VR+ and GND terminals (or PWR and GND for E2/E4 controllers).

Controller terminals for reader connection.

Controller model	Direction	Terminal for reader connection
E510	Entry	PORT 1
	Exit	PORT 2
E2, E4	Entry	PORT 1 READER
	Exit	PORT 2 READER

In case of using OSDP readers, please refer to the corresponding section.

Connecting optical sensors.

An optical sensor detects when someone passes through the turnstile. The turnstile can have one or two sensors of different types. The Turnstile sensor type parameter determines how the output signals from the turnstile sensors are processed.

Logic used to process the output signals from turnstile sensors.

Name	Description
Simplified interface	Two sensors detect when someone passes through the turnstile in either direction.
Sensor broadcasting	Two sensors detect when someone passes through the turnstile in either direction, and they trigger one after the other.
Single wire interface	One sensor detects when someone passes through the turnstile in either direction.

In the default configuration Turnstile, potential control mode, the default sensor interface type is Simplified interface, which can be changed in the controller settings. If your turnstile has a single sensor, assign the Single access control sensor line function to the selected terminal of the Sigur controller.

The default configuration expects normally closed sensors to be connected. You can manually change the normal state of the connected sensors in the controller settings.

Controller terminals for optical sensor connection.

Controller model	Direction	Terminal for optical sensor connection
E510	Entry	D1
	Exit	D2
E2	Entry	PASS (PORT 1 SENSORS)
	Exit	PASS (PORT 2 SENSORS)
E4	Entry	PASS (PORT 1 INPUTS)
	Exit	PASS (PORT 2 INPUTS)

Connecting a control panel.

The turnstile control panel must also be connected to the Sigur controller. If the control panel is connected directly to the turnstile control board, Sigur ACS will consider all entries authorized by the control panel as intrusions.

In the default configuration, it is expected that the control panel's normally open buttons are connected to the Sigur controller. You can manually change the normal state of the connected buttons in the controller settings.

Controller terminals for control panel connection.

Controller model	Button function	Terminal for control panel button connection
E510	Entry	D3
	Exit	D4
	Block	D5
E2	Entry	RTE (PORT 1 SENSORS)
	Exit	RTE (PORT 2 SENSORS)
	Block	IN1
E4	Entry	RTE (PORT 1 INPUTS)
	Exit	RTE (PORT 2 INPUTS)
	Block	IN1 (INPUTS)

Connecting an emergency line.

If the turnstile is equipped with an emergency input, connect this line to the terminals of the Sigur controller. The function assigned to the terminal is Door Unlocked indication line, normally not active, which is activated in the event of a fire alarm or when the access point is unlocked using the Client tool. The turnstile is expected to unlock and allow free passage when it receives a signal on this line.

Controller terminals for emergency line connection.

Controller model	Terminal for emergency line connection
E510	K4
E2	OUT1
E4	PORT 4 RELAY

Connecting an emergency release button.

Additionally, it is also possible to connect a normally closed emergency release button to a Sigur controller. When the button is pressed, the controller switches to Fire! mode, all access points on the controller are unlocked and the Door Unlocked indication line is activated.

To connect the emergency release button, you can use the instructions in the Connecting an emergency release button section.

Switching to pulse control mode.

In this section we have considered the connection of devices to the controller in the Turnstile, potential control mode default configuration. For a pulse-controlled turnstile, select the Turnstile, pulse control mode default configuration.

In this case, the devices are connected to the controller in a similar way to the potential-controlled turnstiles, with the addition of a Lock control line. Sigur controllers activate this line to block the turnstile when a person successfully passes through an access point or when the waiting period ends after the card has been presented to the reader.

Controller terminals for Lock control line connection.

Controller model	Terminal for Lock control line connection
E510	K3
E2	OUT1 (the emergency line is not connected)
E4	PORT 3 RELAY

8.3.3. Barriers and gates

Let's consider the connection of devices and the configuration of Sigur E510 and E4 controllers to manage a single barrier in pulse mode. The default configuration of the Sigur E2 controller does not include barrier or gate control.

Wiring diagrams for connecting barriers, gates and other devices to Sigur controllers can be found in the appendix to this manual. For barrier/gate control, two control logics are available in the system.

Barrier/gates control logics.

Name	Description
Arm barrier / gate, Open, Close, Stop logic	The barrier is controlled by sending short pulses. Before sending the Open or Close command, a Stop command is always sent so that the subsequent reaction of the barrier/gate drive is unambiguous.
Arm barrier / gate, Direct control logic	The barrier is controlled by keeping the Sigur controller's relay energized throughout the movement of the barrier arm/leaf.

Let's select the Arm barrier / gate, Open, Close, Stop logic default configuration.

Connecting barrier/gates.

The control lines of the barrier or gates are connected to the relays on the controller board. The functions assigned to the terminals are Open/Close/Stop line, normally not active.

Controller terminals for barrier or gates connection.

Controller model	Control line	Terminal for barrier or gates connection
E510	Stop line	K1
	Open line	K2
	Close line	K3
E4	Stop line	PORT 1 RELAY
	Open line	PORT 2 RELAY
	Close line	PORT 3 RELAY

Connecting vehicle detection sensors.

Vehicle detection sensors are used to detect vehicles and ensure safety, and the access control system uses them to register entry and exit events.

The sensors must be connected to the Sigur controller to avoid conflicts in control signals and loss of control of the barrier or gates.

The sensors on the entrance and exit sides of the barrier or gates are optional, while the central detection sensor under the barrier arm/leaf is mandatory. If you want to use only the central sensor, clear the Show only basic settings checkbox

and set the values for the Vehicle detection sensor for entrance and Vehicle detection sensor for exit functions to not selected.

The default configuration expects normally closed sensors to be connected. You can manually change the normal state of the connected sensors in the controller settings.

Controller terminals for vehicle detection sensor connection.

Controller model	Vehicle detection sensor position	Terminal for sensor connection
E510	Outside car presence	D1
	Car presence on gate line	D2
	Inside car presence	D3
E4	Outside car presence	PASS (PORT 1 INPUTS)
	Car presence on gate line	PASS (PORT 2 INPUTS)
	Inside car presence	PASS (PORT 3 INPUTS)

Connecting readers.

The PORT terminals are used to connect readers via the Wiegand interface.If the reader's supply voltage matches the controller's supply voltage (10...15 V) and the maximum current consumption per port does not exceed 200 mA, you can connect the reader's supply lines to the controller's VR+ and GND terminals (or PWR and GND for E2/E4 controllers).

You can use one to three readers to manage the barrier or gates. The direction of passage through the barrier depends on which reader transmits the code to the controller.

When using a single reader (Unknown direction reader port line), two vehicle detection sensors are required on opposite sides of the barrier (Vehicle detection sensor for entrance and Vehicle detection sensor for exit lines) to determine the direction of passage through the barrier.

Controller terminals for reader connection.

Controller model	Direction	Terminal for reader connection
E510	Entry	PORT 1
	Exit	PORT 2
	Unknown direction (long range readers)	PORT 3
E4	Entry	PASS (PORT 1 INPUTS)
	Exit	PASS (PORT 2 INPUTS)
	Unknown direction (long range readers)	PASS (PORT 3 INPUTS)

In case of using OSDP readers, please refer to the instructions in the corresponding section.

Connecting a control panel.

The control panel of the barrier or gates must also be connected to the Sigur controller. In the default configuration, it is expected that the control panel's normally open buttons are connected to the Sigur controller. You can manually change the normal state of the connected buttons in the controller settings.

Controller terminals for control panel connection.

Controller model	Button function	Terminal for control panel button connection
E510	Start/Allow pass	D4
	Stop/Deny pass	D5
E4	Start/Allow pass	RTE (PORT 1 INPUTS)
	Stop/Deny pass	RTE (PORT 2 INPUTS)

Connecting an emergency release button.

Additionally, it is also possible to connect a normally closed emergency release button to a Sigur controller. When the button is pressed, the controller switches to Fire! mode and all access points on the controller are unlocked.

To connect the emergency release button, you can use the instructions in

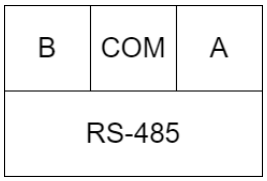
the Connecting an emergency release button section.

8.3.4. OSDP readers

Sigur E2/E4 controllers are compatible with all readers that support OSDP v2.2. You can connect up to four readers to Sigur E2/E4 controllers via OSDP.

Connecting an OSDP reader.

OSDP readers are connected to Sigur E2/E4 controllers via the RS-485 interface using the controller RS-485 terminal block.



RS-485 terminal block.

The communication cable is connected to terminals A (first wire of a twisted pair in the cable), B (second wire of the twisted pair in the cable) and COM (common wire). Any free wire in the cable except the screen could be used as the COM wire.

The A and B wires must be a twisted pair. Using wires from different twisted pairs is not allowed.

If more than one reader is connected to the line, you should use the linear bus topology. This means that all the devices connected to the cable must be connected sequentially, one after the other.

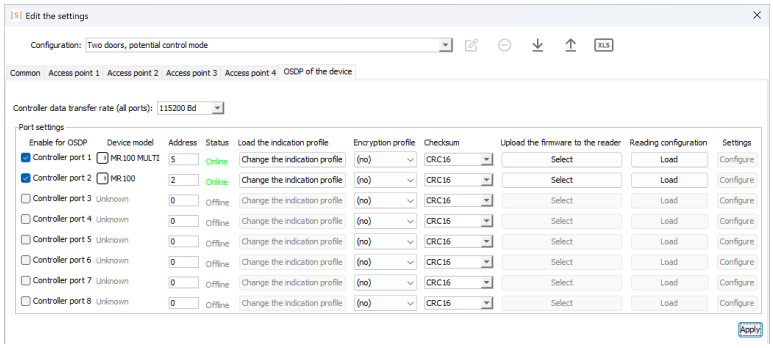
When connecting devices, it is necessary to ensure that the wires A and B of the communication line are clearly matched on the controller and on all the readers connected to this line. All the A ports must be connected via the same wire in the twisted pair and all the B ports must be connected via the second wire in the same twisted pair.

Wiring diagrams for connecting OSDP readers to Sigur E2/E4 controllers are included in the appendix to this manual.

Configuring controller.

When connecting readers via OSDP, it is necessary to define the network parameters for each reader in the controller settings. To do this, go to the Access points tab, select any access point of a Sigur E2/E4 controller from the list and click Settings. In the window that opens, select the OSDP of the device tab. Here

you can set the communication speed and configure the connection parameters for your readers and the logical ports of the controller.



OSDP of the device tab.

In the Enable for OSDP column, you can select which logical ports of the controller will be OSDP-enabled.

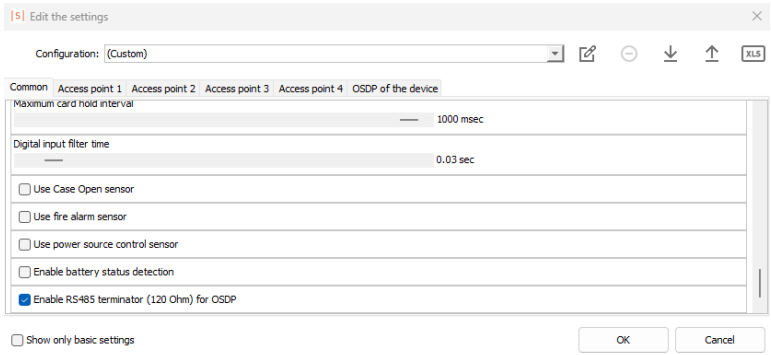
After enabling a logical port, it is necessary to do the following:

1. Enter the address of an OSDP reader on a line (valid range - 1 to 127). The address is set in the reader settings (see the reader manufacturer's manual). The settings for Sigur MR100 readers are described in the following subsection.
2. Select the way the checksum is calculated. This also depends on the reader settings. When using Sigur MR100 readers, select the default value - CRC16.
3. Select the baud rate from the Controller data transfer rate (all ports) drop-down list. It should match the reader settings.
4. Click Apply. If the settings are correct, the port status will change to Online.
5. Click OK to save the settings.

If a port is selected in the Enabled column, the controller's Wiegand port with the same number is automatically disabled.

If the controller is a terminating device on the RS-485 line, the terminating resistor must be activated. The line terminators on Sigur E2/E4 controllers are disabled by default, but can be enabled in the software. To do this, follow these steps:

1. Go to the Access points tab.
2. Select any access point of a particular Sigur E2/E4 controller from the list and click Settings.
3. Go to the Common tab and clear the Show only basic settings checkbox.
4. If the controller is the first or the last device on the RS-485 loop, select the Enable RS485 terminator (120 Ohm) for OSDP checkbox and click OK to save the settings.



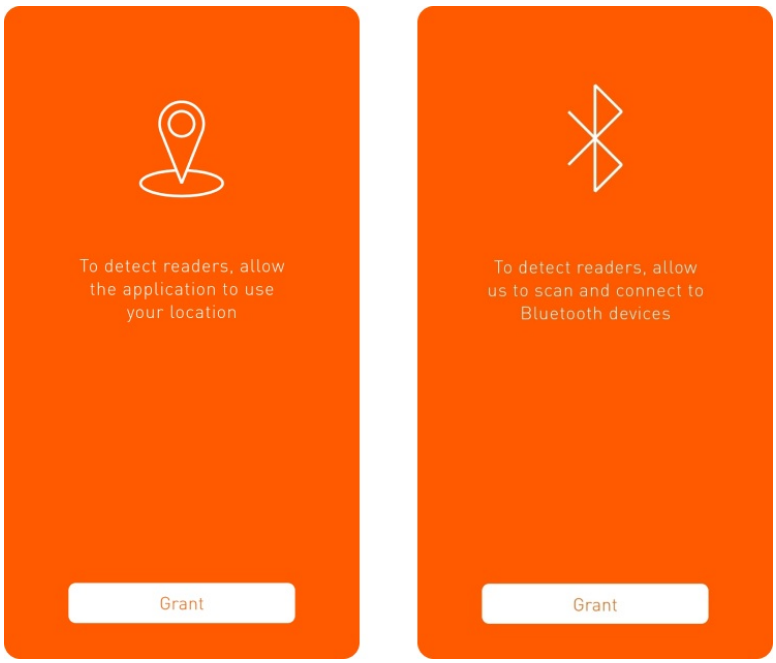
Enabling a RS-485 terminator.

Refer to the reader manufacturer's manual for information on enabling line terminators on readers. The following subsection describes the settings for Sigur MR100 readers.

Configuring Sigur MR100 readers.

By default, Sigur MR100 readers are configured for the Wiegand output interface. To set the OSDP output interface, follow these steps:

1. Turn on Bluetooth on your Android device (Android 5.0 or higher).
2. Install the Sigur Readers Config mobile application (Google Play, Huawei AppGallery) and open it.
3. The first time you run the application, grant it all the permissions it requests.

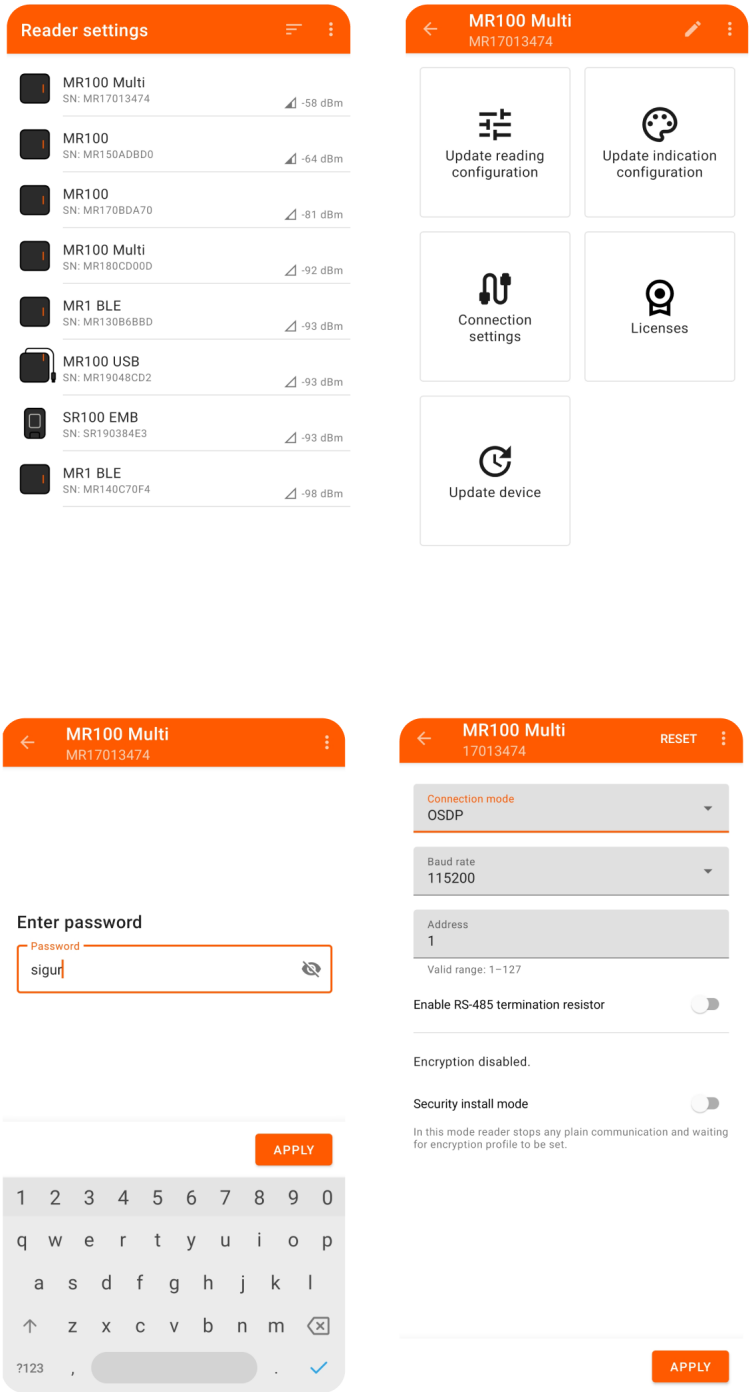


Mobile application permissions.

4. Select the reader from the list. You can select multiple readers in the list by long pressing.

5. Select Connection settings from the list of actions and enter the reader service password (default: sigur).
6. Select the OSDP connection mode from the drop-down list. It is also necessary to configure:

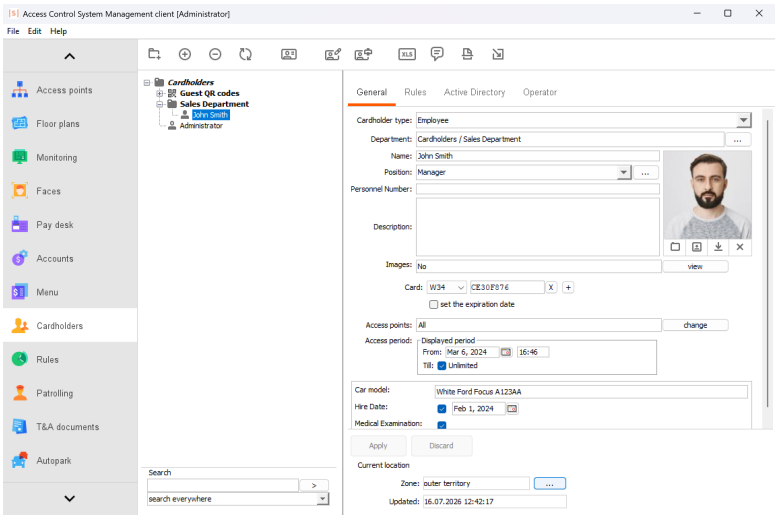
    1. Baud rate — the data transmission rate on the RS-485 line between the controller and the readers connected to it. Possible values: 9600, 19200, 38400, 57600, 115200 Bd.
    2. Address — unique address of the reader on the RS-485 line. Valid range: Integers from 1 to 127.
    3. Enable RS-485 termination resistor — enable this option if the reader is the first or the last device on the RS-485 loop.
    4. Security install mode — needs to be enabled to set the reader to encrypt OSDP data. Leave this option unchecked for now.
7. Tap Apply and wait for the settings to be uploaded to the reader. Once the upload is complete, the settings will be applied and there is no need to restart the reader.



Configuring Sigur MR100 readers.

9. Cardholder database management

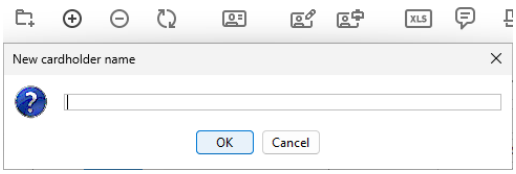
The Cardholders tab is used to manage the cardholder database. Here you can add and remove cardholders, create departments, restrict access to access points and more.



Cardholders tab.

9.1. Adding cardholders to the database

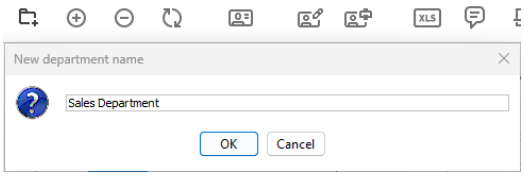
To add a new cardholder, click + on the top toolbar, enter the cardholder's name and click OK.



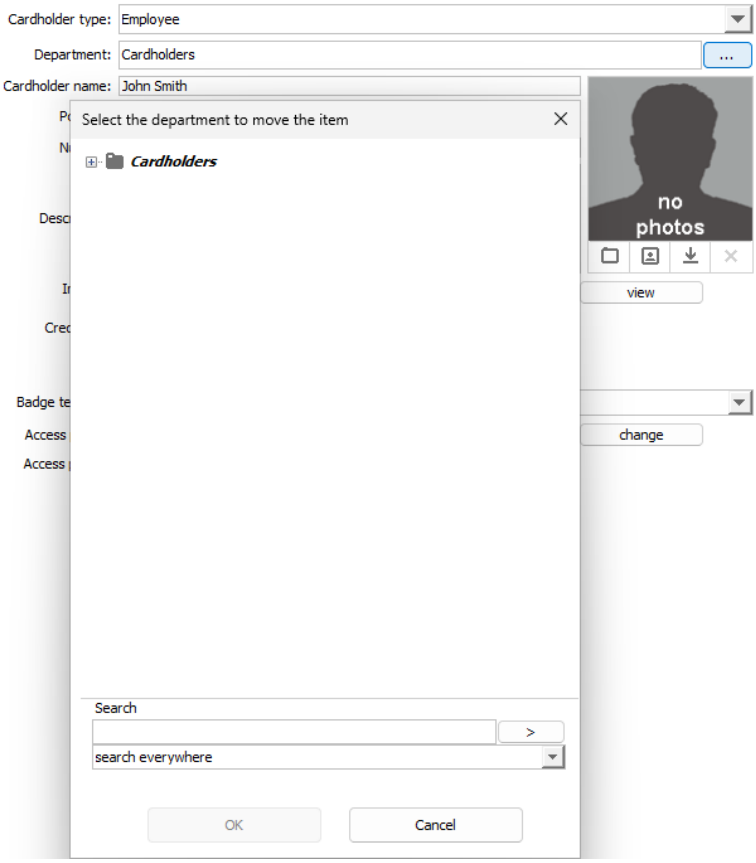
Adding a new cardholder.

After that, you can complete the remaining parameters of the cardholder's profile. In the Cardholder type field, the default value is Employee, which is standard. There is no need to change this parameter in this example.

Next, you can choose the department to which the cardholder belongs. Create a Sales Department by clicking the Add department to selected department button. Then move the cardholder to the Sales Department by clicking the ... button in the cardholder's profile.



Adding a new department.



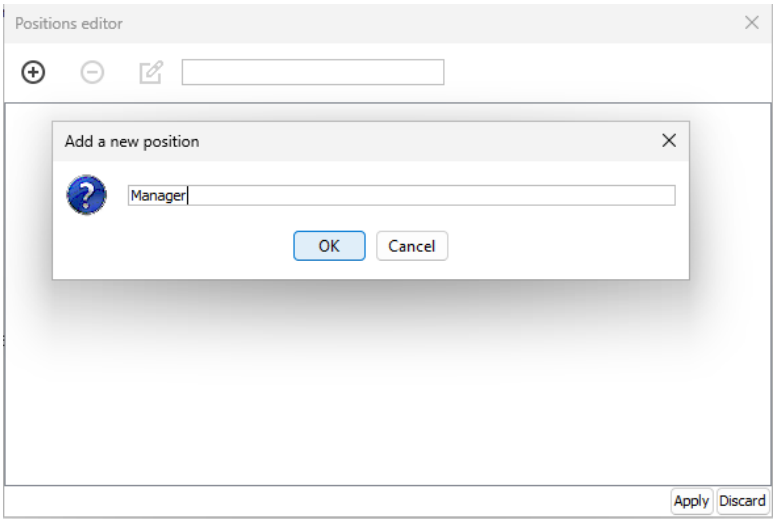
Moving the cardholder to another department.

You can then create cardholders directly in a specific department. To do this, select the department from the list and click the + button.

You can create a hierarchical structure of departments with an unlimited number of nested levels. To do this, select the parent department in the list and create the desired number of sub-departments by clicking the Add a department to the selected department button.

It is also possible to change the cardholder's position. Add a new position by clicking the ... button in the cardholder's profile. In the Positions editor window, click the + button, enter the position name (e.g. Manager), click OK and then click Apply. Assign the position to the cardholder using the drop-down list.

If there are many positions in the system, use the search function in the Editing positions window to find a specific position by its name.



Adding position.

The Number field is usually used to store the cardholder's personnel number or any other unique identifier.

You can also enter text of up to 255 characters in the Description field.

Now, let's add a personal photo for the cardholder. This can be done using a connected webcam by clicking the Select from the camera, or upload an image in JPG, JPEG, GIF, PNG, or BMP format by clicking Select from file.

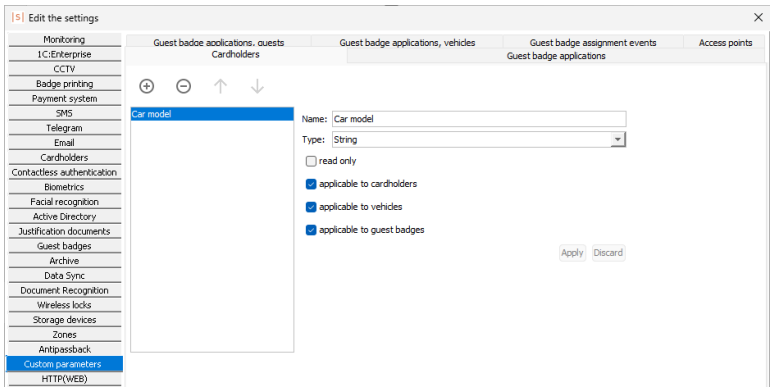
Adding a photo.

Click Apply to save the changes.

9.2. Creating custom fields

It is also possible to add an unlimited number of additional parameters to a cardholder profile. To do this, go to the File → Settings menu in the Client tool.

In the Settings window, select the Custom parameters section and go to the Cardholders tab. Next, create a new custom field by clicking the + button, enter the name (e.g. Car Model), and click OK. For this custom field, set the field Type to String and select the Employees related checkbox.



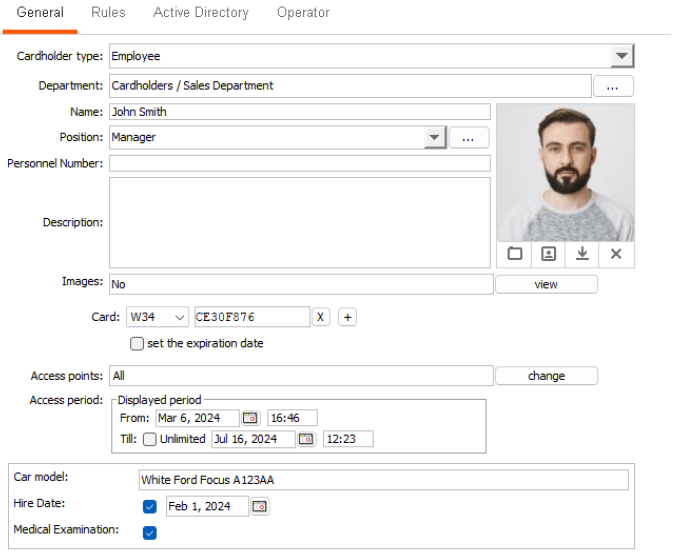
File → Settings → Custom fields → Cardholders menu.

Click Apply and then OK to confirm. A new field will now appear in the cardholder profile.

Similarly, let's create two more custom fields: Hire Date of type Date and Medical Examination of type Boolean. Then go to the cardholder profile.

Different types of custom fields in the cardholder profile.

You can enter any value in the string custom field. To fill in the date type custom field, select the checkbox and enter the required date manually or select it by clicking on the calendar icon. The value of the boolean type custom field is logical (yes or no). You can either select or clear the checkbox.



Custom fields in a cardholder profile.

Click Apply to save changes to the cardholder profile.

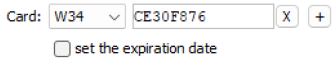
9.3. Adding cards

Now let's add an access code to a cardholder profile.

Cards, key fobs, radio frequency tags, etc. can be used as access credentials. Each cardholder can be assigned up to 5 different credentials. Please refer to the corresponding section if you wish to work with the secure memory area of Mifare cards.

There are three ways to add keys to the system:

1. You can manually enter its number in the Card field. You can also change the format of the access code.



Card field.

2. The access code can also be added using an integrated desktop USB reader. Use the ACR1252U for Mifare identifiers and the Iron Logic Z-2 USB for EM Marine identifiers.

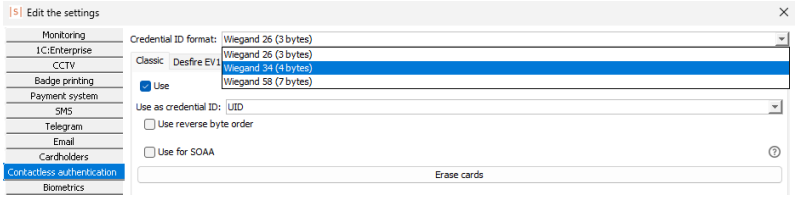
   Proceed as follows:

   - Connect the reader to a USB port.
   - Go to theCardholders tab and select a cardholder.
   - Make sure that a Action when reading a pass drop-down list appears at the top of the tab. If not, restart the Client tool.
   - Select the Link the credentials to the selected cardholder option and present the card to the USB reader.

Action when reading a pass drop-down list.

   A new access code is then added to the cardholder and the code length is automatically set. To add multiple access codes to the cardholder, select the Add the credential to the selected cardholder option.

   To change the format of the access code issued by the integrated USB readers ACR1252U and Iron Logic Z-2 USB, go to the File → Settings menu and open the Contactless authentication tab. Select the required ID format from the drop-down list and click OK.



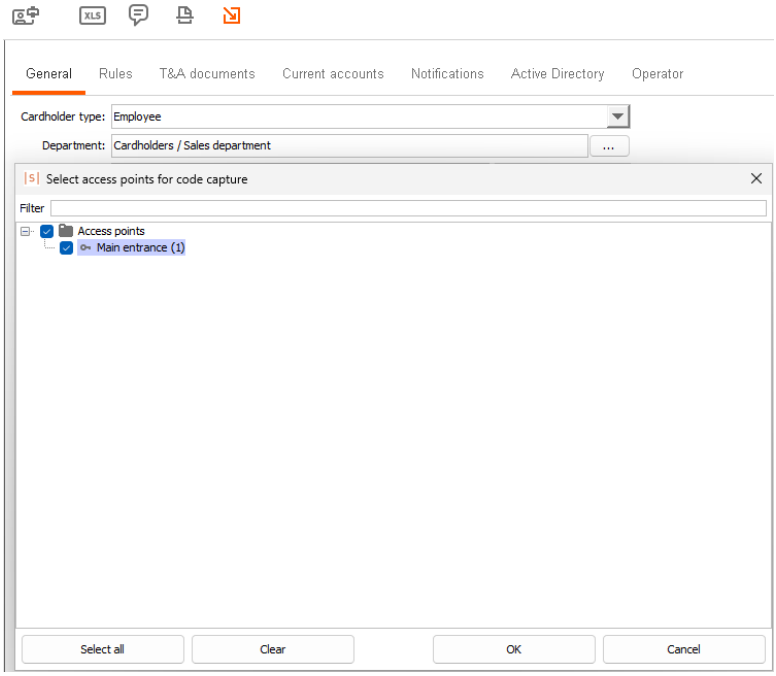
File → Settings → Contactless authentication menu.

3. You can capture codes from a wall reader associated with a specific access point. To do this, follow these steps:

   - Go to the Cardholders tab and select a cardholder.
   - Click the Capture codes from access points button at the top toolbar.

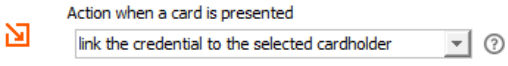
Capture codes from access points button.

   - In the window that appears, select the access point from the list and click OK.



Selecting access points for code capture window.

   - You will then have access to a Action when reading a pass drop-down list. Choose the Link the credentials to the selected cardholder option and present the card to the wall reader. To add multiple access codes to the cardholder, select the Add the credential to the selected cardholder option.



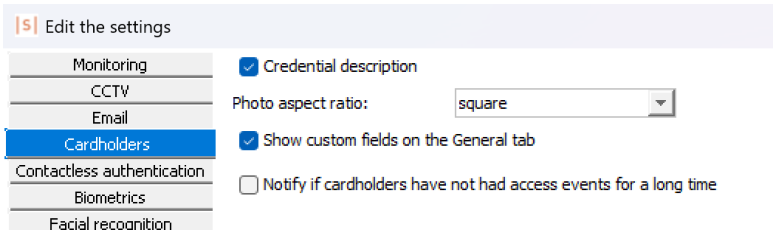
Action when a card is presented drop-down list.

   - To stop capturing codes, click the Capture codes from access points button again. This will disable the capture process.

To finalize and save changes to the cardholder profile, click Apply.

You can also add comments to cardholder access codes. To enable this feature, go to the File → Settings → Cardholders menu and activate the Credential

description checkbox.



File → Settings → Cardholders menu.

9.4. Importing data from MS Excel spreadsheet

This feature allows you to quickly create a database of cardholders, to add or change cardholder information and to reduce the amount of manual data editing required.

To do this, you will need to prepare a MS Excel spreadsheet (.xls) containing cardholder data.

Before loading the file onto the system, it is recommended to back up the database.

The first row of the spreadsheet should contain column names, and the remaining rows should contain cardholder information. The number of columns can vary: for example, you can create a table with only two columns: Cardholder name and Department.

To add multiple card codes to a cardholder profile, list them in the appropriate column without filling in the remaining cells in the rows, as shown in the example below.

Department	Position	Name	Credential	Description
Sales department	Sales manager	John Smith	023CBDF4	Has three cards
			F81E9CA5	
			0A3F2B7D	
Marketing department	Senior Specialist	Mary Johnson	47D36B1F	
HR	HR manager	Charles Williams	5F1842C7	
Accounting office	Accountant Officer	Sarah Brown	EC790D63	

Example of a table.

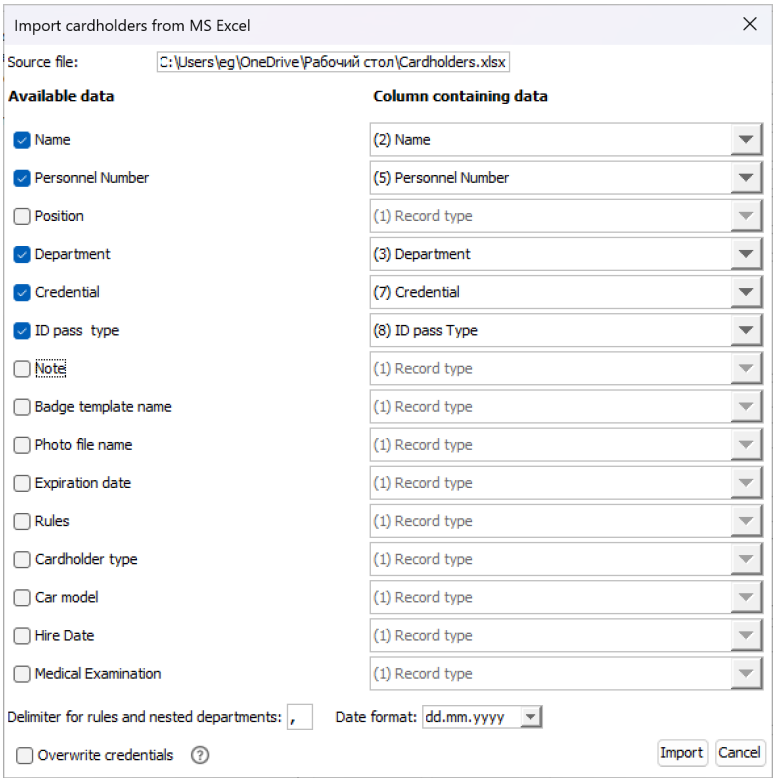
You can also import data into the custom fields created earlier. Add columns to the table that contain values to insert into custom fields.

After preparing the spreadsheet, go to the Cardholder tab and click the Import from MS Excel button.

Import from MS Excel button.

In the dialogue box select the previously prepared file and click Open. The Import cardholders from MS Excel window opens:

- In the Data presence column, select the parameters to be loaded into the system from the file.
- In the Column block, select the corresponding spreadsheet column by name or number.
- Click Import to start the import.

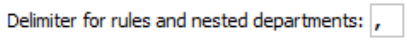


Import cardholders from MS Excel window.

Resulting company structure.

If you need to load the hierarchical structure of the departments, you should specify the Delimiter for rules and nested departments when loading the MS Excel

file.

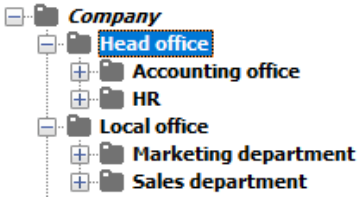


Delimiter for rules and nested departments parameter.

The Department column of the MS Excel spreadsheet should contain the name of the cardholder's department, taking into account all nesting, and the sub-departments should be separated by the selected symbol.

Department	Position	Name	Credential	Description
Local office, Sales department	Sales manager	John Smith	023CBDF4	Has three cards
			F81E9CA5	
			0A3F2B7D	
Local office, Marketing department	Senior Specialist	Mary Johnson	47D36B1F	
Head office, HR	HR manager	Charles Williams	5F1842C7	
Head office, Accounting office	Accountant Officer	Sarah Brown	EC790D63	

Example of a table.



Resulting company structure.

If required, you can also import photos of cardholders. To do this, add a column to the created table specifying the path and filename of the photo in standard Windows format.

There are two ways of specifying the path:

- Absolute path: C:\User\Photos\John_K.jpg. The system will search for photos in the specified directory.
- Relative path: John K.jpg or Photos\John_K.jpg. The system searches for photos either directly in the folder containing the spreadsheet, or in the Photos folder in the same directory as the spreadsheet.

When loading the spreadsheet, you will need to match the Name of the photo file item in the Available data column with the column in the MS Excel spreadsheet that contains the path and file name of the photo.

Department	Position	Name	Credential	Description	Name of the photo file
Local office, Sales department	Sales manager	John Smith	023CBDF4	Has three cards	John Smith.jpg
			F81E9CA5		
			0A3F2B7D		
Local office, Marketing department	Senior Specialist	Mary Johnson	47D36B1F		Mary Johnson.jpg
Head office, HR	HR manager	Charles Williams	5F1842C7		Charles Williams.jpg
Head office, Accounting office	Accountant Officer	Sarah Brown	EC790D63		Sarah Brown.jpg

Example of a table.

If you do not want to create new cardholders, but want to make bulk changes to

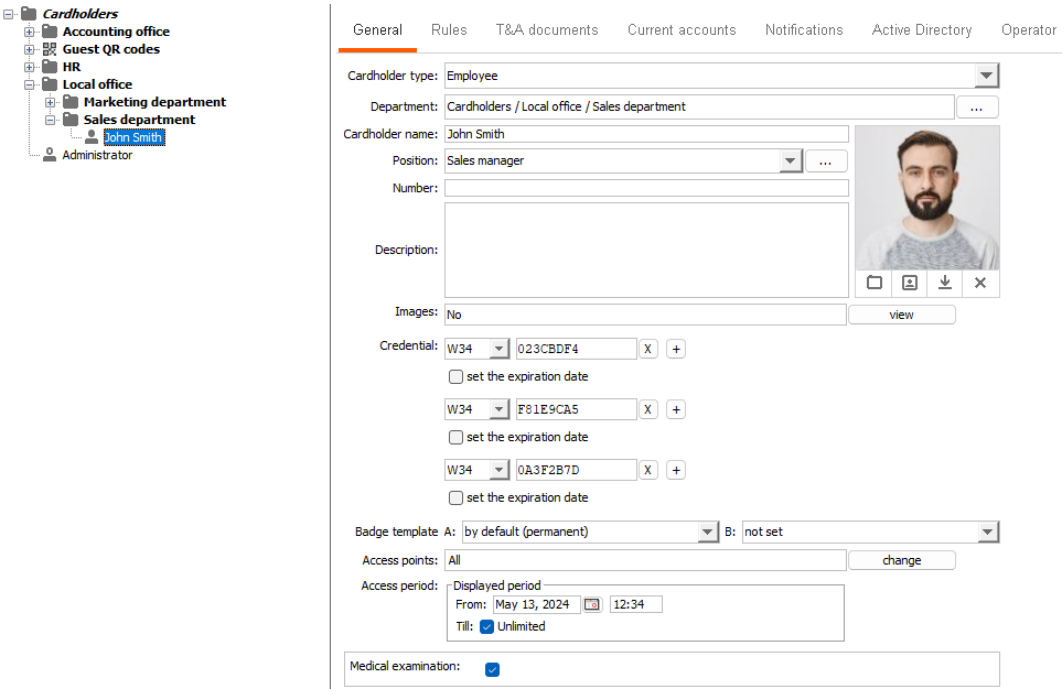
existing cardholders, the MS Excel spreadsheet should contain the Name and Department parameters for each of these cardholders. These parameters should match the existing values in the system.

When loading a file to edit cardholder data, the hierarchical structure of departments should be taken into account. If the values in the spreadsheet (columns Name and/or Department) differ from the existing values in the Client tool, the system will create a new cardholder (duplicate) instead of updating the data when processing the file.

Below is an example of a spreadsheet that can be used to change the values of a previously added custom boolean type field called Medical examination.

Department	Name	Medical examination
Local office, Sales department	John Smith	Yes
Local office, Marketing department	Mary Johnson	Yes
Head office, HR	Charles Williams	Yes
Head office, Accounting office	Sarah Brown	Yes

Example of a table.



Changes made to the cardholder profile.

10. Using Mifare cards

Mifare cards are used to enhance the security of the access control system. Cardholder identification can be based on the card's UID or a password-protected value stored in the Mifare card's memory.

To add UIDs of Mifare cards to the system, follow the instructions in the Adding Cards section.

To use Mifare cards in a secure mode, they must be pre-programmed. This procedure is described below in the Issuing Mifare Identifiers section.

You must also transfer the Mifare card reading configuration from the software to the wall reader. If you are using a Sigur MR100 reader, follow the instructions in the Configuring MR100 Readers section.

If you are using a third-party reader, ensure that it has been configured to work with the secure memory area of Mifare cards. The configuration must match that used for programming Mifare cards in the Sigur software. Refer to your reader's user manual for instructions on how to configure it.

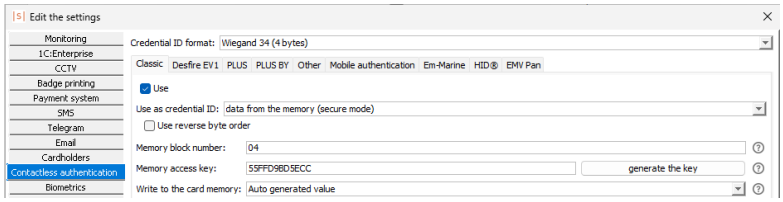
10.1. Issuing Mifare identifiers

In this section we will look at how to configure the system to work with the secure memory area of Mifare Classic cards. Other Mifare cards can also be initialised and copy protected.

To configure the secure memory area of the Mifare classic card, follow these steps:

1. Go to the File → Settings → Contactless authentication menu and open the Classic tab.
2. Specify the identifier format in the Credential ID format block. The available options in the drop-down list are Wiegand 26 (3 bytes), Wiegand 34 (4 bytes), and Wiegand 58 (7 bytes). It is recommended that you select Wiegand 34 or Wiegand 58 to reduce the likelihood of duplicate access codes in the system.
3. In the Use as credential ID block, select data from the memory (secure code) from the drop-down list.
4. The Memory block number parameter can be left unchanged (default is 04).
5. Generate a secret code to access the secure area of a card's memory by clicking the generate the key button.
6. The Write to the card memory parameter can also be left unchanged (default: Auto generated value).
7. Save the settings by clicking the OK button.

ACR1252U USB readers use this configuration when programming Mifare cards. It should also be transferred to a Sigur MR100 reader.



An example of the configuration.

To issue a pass by writing data to the secure memory area of a Mifare card, use an ACR1252U USB reader. The procedure is the same as described in the Adding Cards section:

1. Connect the ACR1252U reader to a USB port.
2. Go to the Cardholders tab and select a cardholder.
3. Check that a Action when reading a pass drop-down list appears at the top of the tab. If not, restart the Client tool.
4. Select the Link the credential to the selected cardholder option and present a blank Mifare Classic card to the USB reader. To add multiple access codes to a cardholder, select the Add the credential to the selected cardholder option.
5. Using the configuration you have previously set, the USB reader will write the data to the card's memory block and protect it with a secret code. Make sure that a new access code has appeared in the cardholder's profile.
6. Click Apply to save the changes.

All Mifare card settings should be configured when the cards are added to the system and should not be changed later.

Changing the system's access credentials to the card memory will result in new cards not being able to access old readers and old cards not being able to access new readers. In such cases, it will be necessary to rewrite all old cards with new credentials and reprogram all readers.

11. Configuring MR100 readers

To change the reading configuration of a Sigur MR100 reader, you need to:

1. Set the reader parameters in the File → Settings → Contactless authentication menu.
2. Transfer the settings to the reader using one of the methods described in this section.

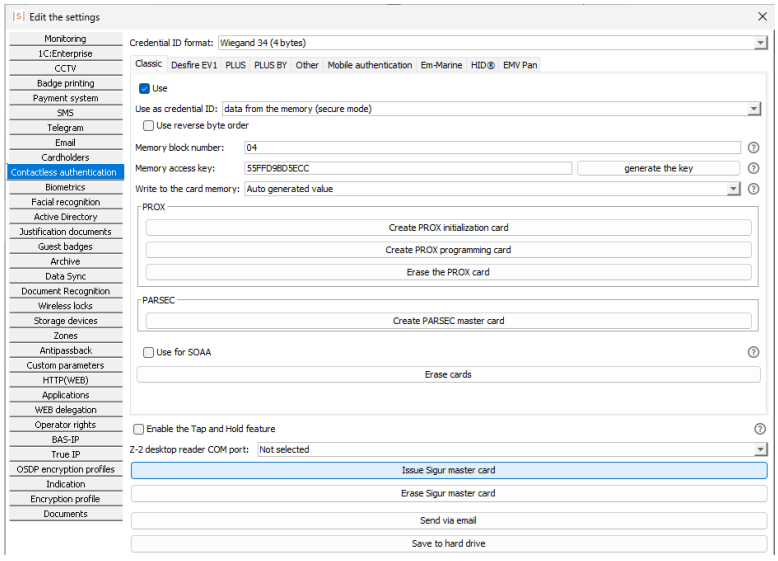
11.1. Configuring a reader using a master card

You can transfer the created reading configuration to Sigur MR100 readers using a master card. For this you need:

- Mifare Classic 1K/4K or Mifare Plus card in factory default configuration, i.e. blank.
- ACR1252U USB reader.

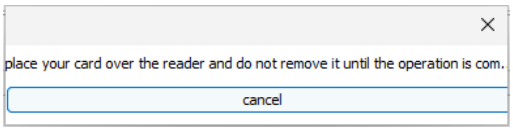
To create a master card, follow the instructions below:

1. Connect the ACR1252U reader to a USB port on your computer and restart the Client tool.
2. Go to the File → Settings → Contactless authentication menu and click on Issue Sigur master card.

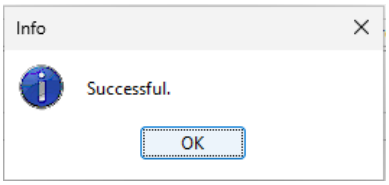


Issue Sigur master card option.

3. Present a blank Mifare Classic 1K/4K or Mifare Plus card to the ACR1252U reader. The software will inform you of the result of the configuration writing process.



Pop-up window.



Configuration writing result.

The next step is to configure the reader.

If the Sigur MR100 reader has never been configured before, please follow these steps to load the configuration:

1. Switch the reader off and on again.
2. Present the master card to the reader within 25 seconds of switching on. The reader beeps when it receives the master card.

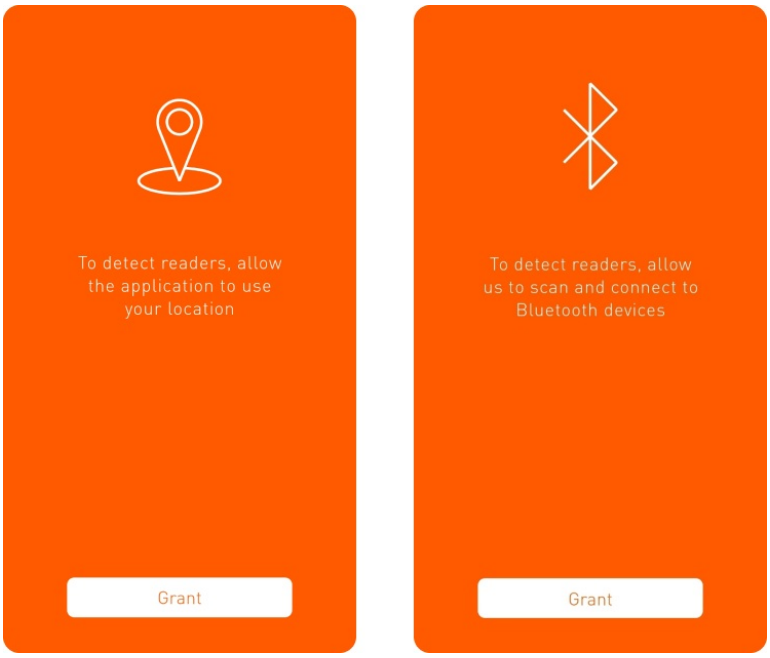
If the Sigur MR100 was previously configured, you need to reset the reading configuration before reconfiguring with the master card. There are two ways to do this:

1. Hardware reset. This does not affect the reader's indication profile. To perform a hardware reset of the reading configuration, it is necessary to:

   - Switch off the reader's power supply.
   - Short-circuit the green (DATA0) and yellow (BEEP) wires of the reader.
   - Power up the reader and then disconnect the wires. The reader beeps if the reset is successful.

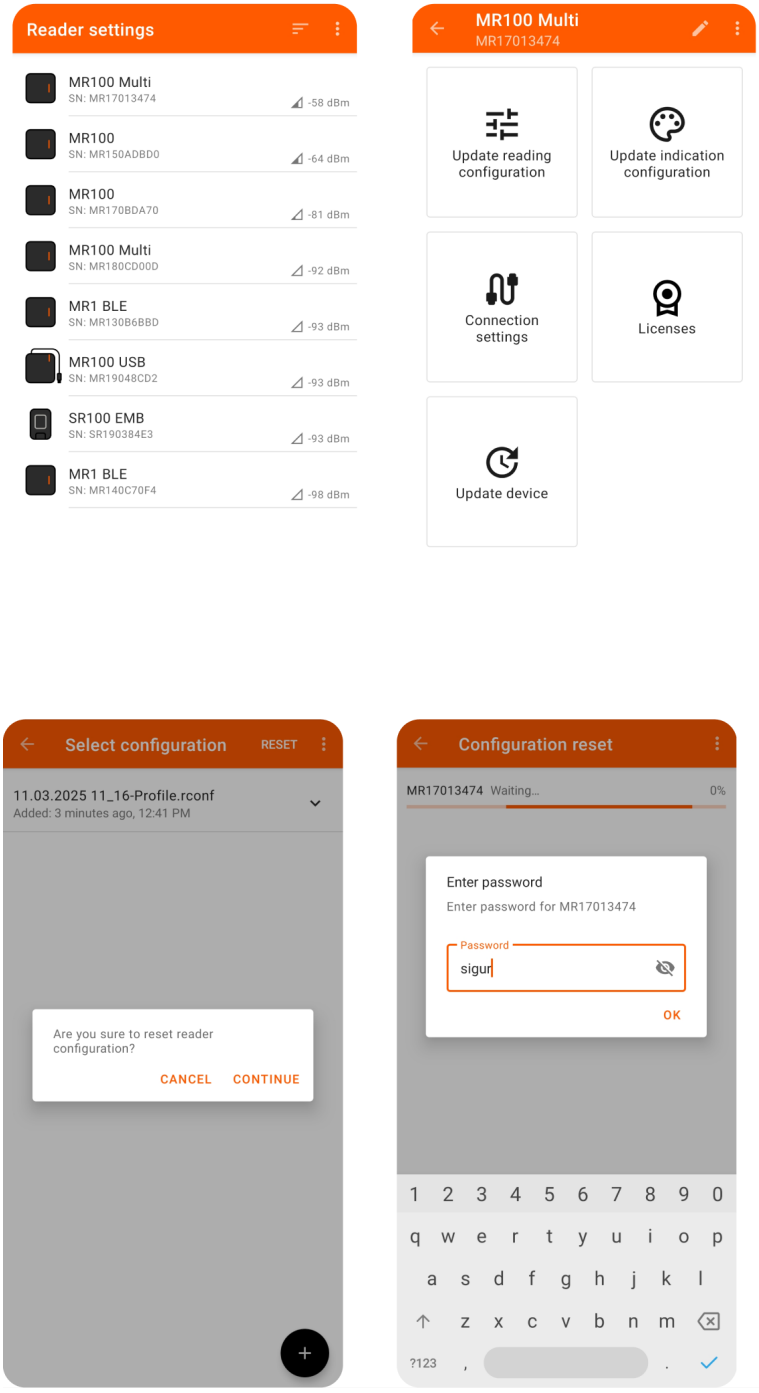
2. Reset via mobile application. You need an Android smartphone (5.0 or higher) with the Sigur Readers Config mobile application pre-installed (Google Play, Huawei AppGallery). Proceed as follows:

   - Turn on Bluetooth on your phone and open the application.
   - The first time you run the application, grant it all the permissions it requests.



Mobile application permissions.

- Select the reader you want to reconfigure. You can select multiple readers in the list by long pressing.
- In the list of actions that opens, select Update reading configuration, in the next window click Reset and tap Continue.
- Enter the service password the first time you interact with the reader. The default password is sigur.
- When the configuration reset process is complete, the reader will beep and the application will notify you of the success. Once the reset is complete, the factory configuration will be applied. It is not necessary to restart the reader.



Configuration reset.

11.2. Configuring a reader using a file

Let's look at another way of configuring the reader - using a configuration file.

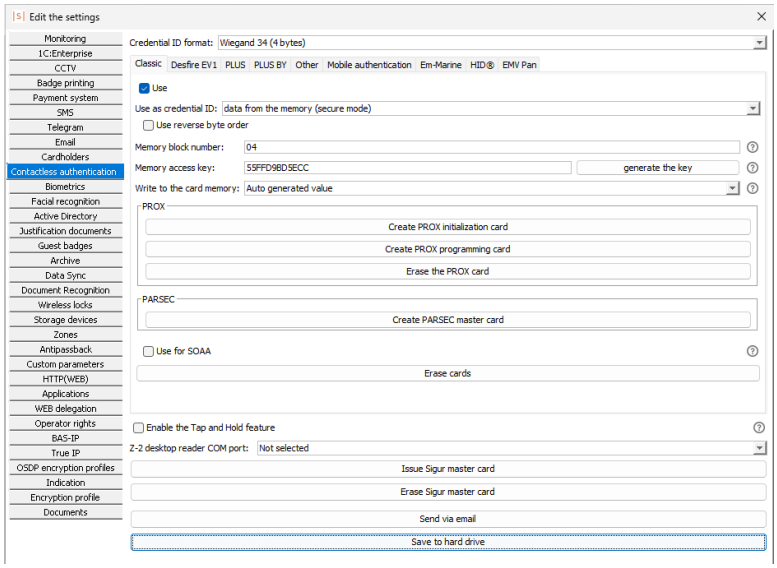
Before doing this, you need to create a reading configuration in the File → Settings → Contactless authentication menu.

To configure the reader, you need an Android smartphone (5.0 or higher) with the Sigur Readers Config (Google Play, Huawei AppGallery) mobile application pre-installed.

You can download the configuration file to your phone in one of the following ways:

1. By saving a file on your PC.

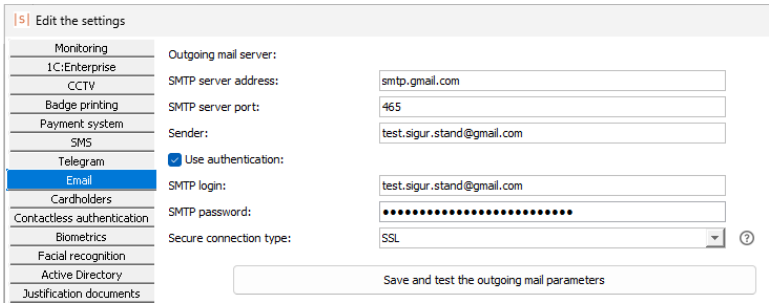
   - In the File → Settings → Contactless authentication menu, click Save to hard drive.
   - Transfer the file to your smartphone in your choice of method.



Saving the configuration on a PC.

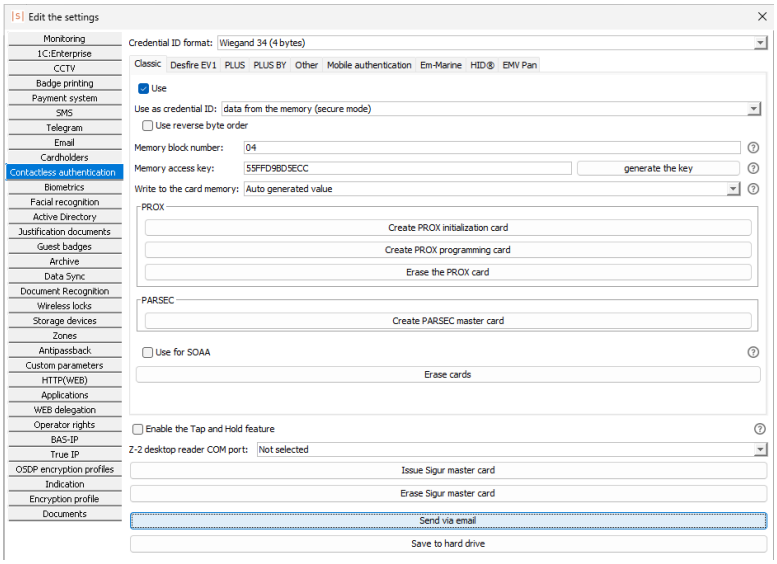
2. By sending the configuration file to email address that can be accessed from the smartphone.

   - First, it is necessary to configure the system's interaction with an external SMTP server. Sigur will use this server for email distribution.
     To do this, go to the File → Settings → Email menu. Fill in the Outgoing mail server block according to your SMTP server settings. Test the connection by clicking the Save and test the outgoing mail parameters button. Click OK to save the settings.



SMTP server settings.

Then go to File → Settings → Contactless authentication and click Send via email. In the window that opens, enter any name for the configuration and specify the e-mail address of the recipient in the Send to email addresses parameter. Click OK to confirm sending the reader configuration.



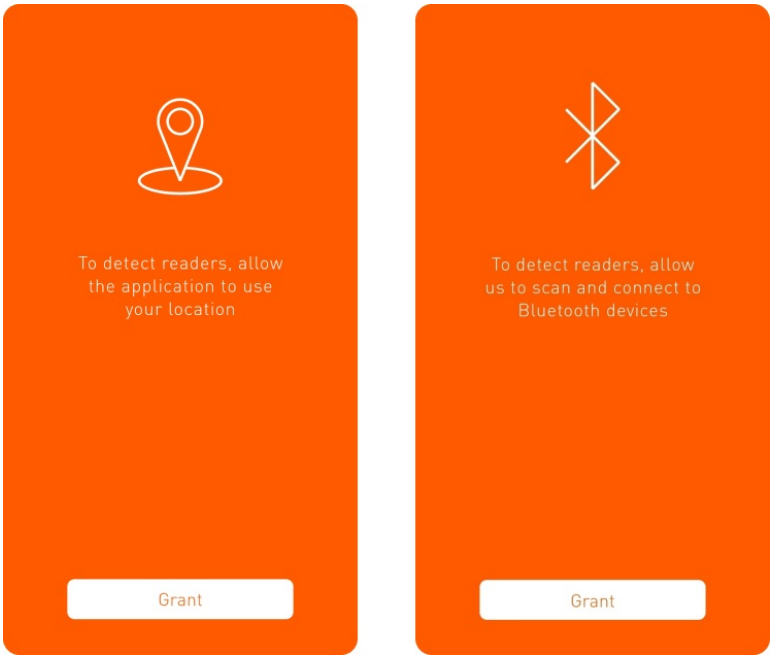
Sending the configuration by email.

- Open the received email on your smartphone. Click on the file attached to the email and open it with the Sigur Readers Config application.

Email containing the configuration file.

After transferring the configuration file to your phone, follow these steps:

1. Turn on Bluetooth on your phone.
2. Open the file with the Sigur Readers Config application.
3. When you first run the application, grant it all required permissions.

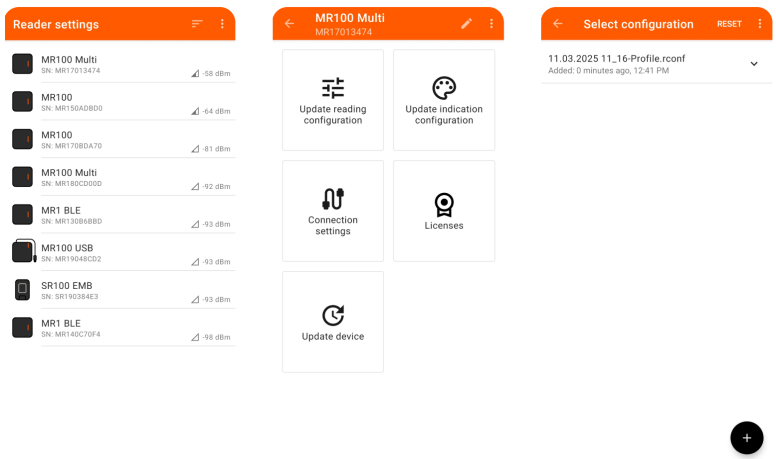


Mobile application permissions.

4. In the list that opens, select the reader to which you want to upload the new configuration. You can select several readers in the list by long pressing.

5. In the list of actions that appears, select Update reading configuration. If this

item does not appear in the list of actions, update the reader's software by enabling Wi-Fi or mobile internet access on your smartphone and selecting the Update device option.

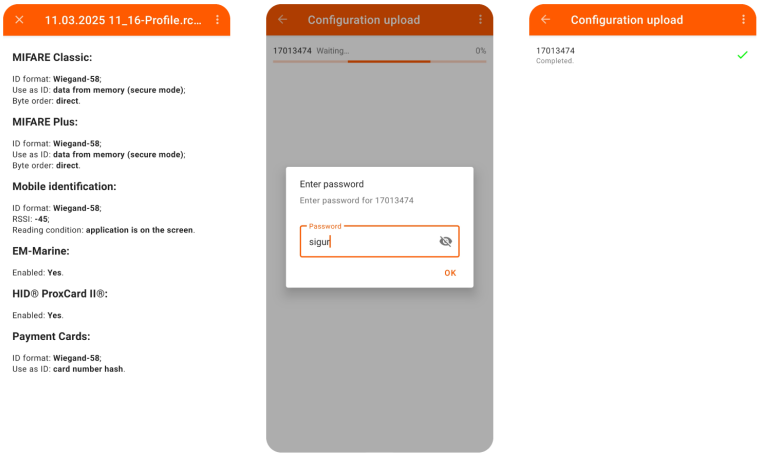


Updating reading configuration.

6. Select a configuration file from the list. You can also check the structure of the configuration file by tapping the down arrow button on the right.

7. Enter the service password the first time you interact with the reader. The default password is sigur.

8. Wait for the configuration to be uploaded to the reader. The configuration will be applied when the upload is complete, you do not need to restart the reader. Once the new parameters have been applied, the reader will beep and the application will notify you of the success of the operation.



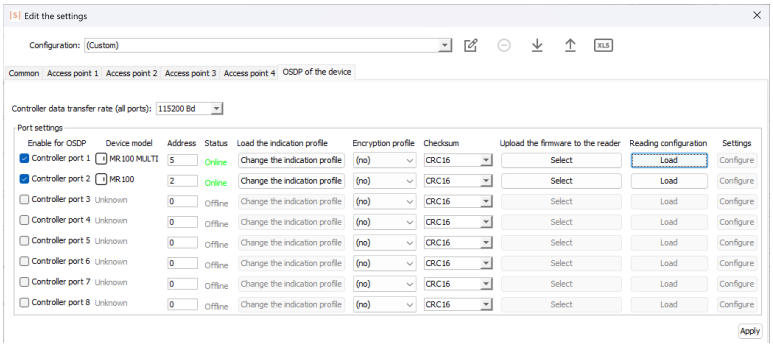
Updating reading configuration.

11.3. Configuring a reader via SSDP (Sigur Supervised Device Protocol)

This method is only relevant if a Sigur MR100 reader is connected to the Sigur E2/E4 controller via the OSDP interface.

The reading configuration created in the File → Settings → Contactless authentication menu is transferred to the reader via the Client tool. Follow these steps:

1. Go to the Access points tab.
2. Select an access point from the list and click Settings.
3. In the window that opens, select the OSDP of the device tab.
4. Click Load in the Reading configuration column for a specific Sigur MR100 reader. The process of uploading the configuration to the reader starts.



Programming a Sigur MR100 reader via SSDP.

5. Click OK in the update progress window when the upload is complete.

12. Mobile access control

The Sigur MR100 and MR100 Multi readers make it possible to use a smartphone as a means of identification alongside traditional access cards. For iOS (9.0+) and Android (5.0+) smartphones, this is possible using BLE (Bluetooth Low Energy) technology. Android smartphones can also use HCE technology.

The identification technology (BLE or HCE) is not set on the reader. You can select it from Sigur's mobile application Access.

Sigur readers have two mobile identification modes:

1. Default mode: A reader responds to any smartphone that has the Sigur Access application installed and running.
2. Custom mode: A reader only responds to the smartphones that have received an invitation email from a Sigur server. This establishes an encrypted connection with the smartphones.

These modes are described in the following sections.

12.1. Default mode

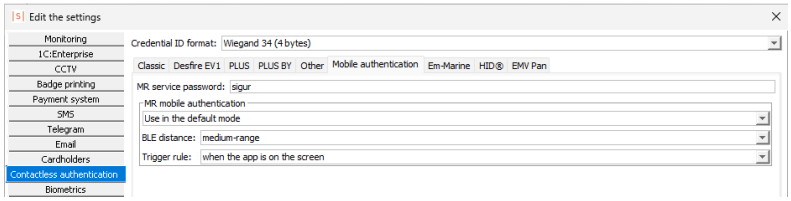
Let's start by configuring the system to interact with mobile identifiers in Default mode:

1. Go to File → Settings → Contactless authentication → Mobile authentication.
2. From the MR mobile authentication drop-down list, select Use in the default mode.
3. From the BLE distance drop-down list, select the mobile identification range. There are four options:

    - Short-range: -45 dBm.
    - Medium-range: -75 dBm. You can select this option for now.
    - Long-range: < -75 dBm.
    - Custom (enter the RSSI). This option requires entering the received signal strength indicator (RSSI) in dBm. Successful identification will be performed when this level is exceeded.

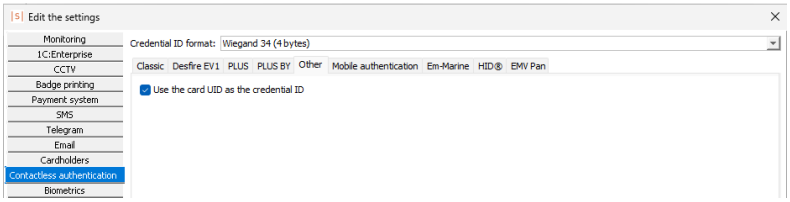
4. In the Trigger rule block you can select the rule according to which identification will be performed. Three options are available:

    - when the app is on the screen: the screen is unlocked and the application is open. You can select this option for now.
    - When the screen is unlocked: the screen is unlocked and the application is running in the background.
    - Always: the application is running in the background and identification occurs even with the screen locked.



Configuring the default mode.

5. If you want to use mobile identification on Android via HCE (in addition to NFC), go to the Others subtab and clear the Use the card UID as the credential ID checkbox.



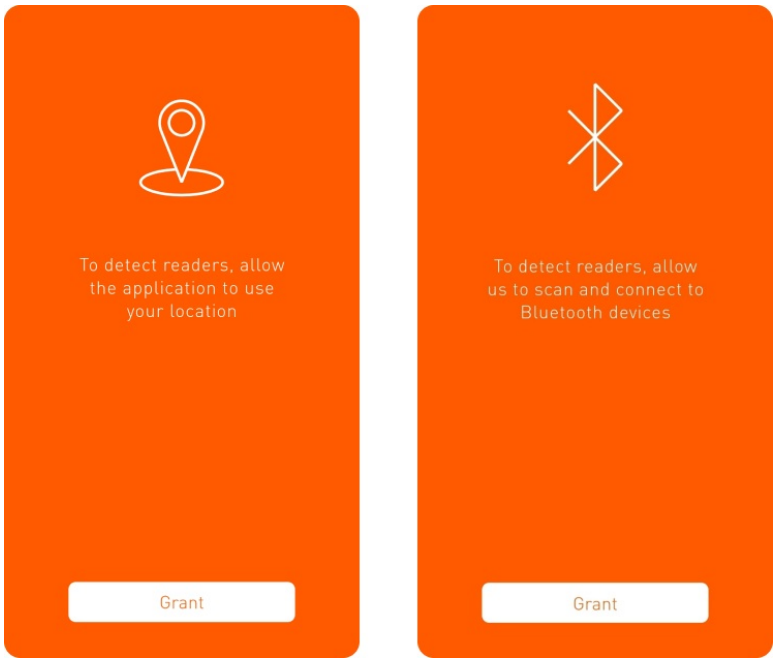
Use the card UID as the credential ID checkbox.

6. Transfer the created configuration to a Sigur reader using one of the methods described in the Configuring MR100 Readers section.

Issuing a mobile identifier in Default mode.

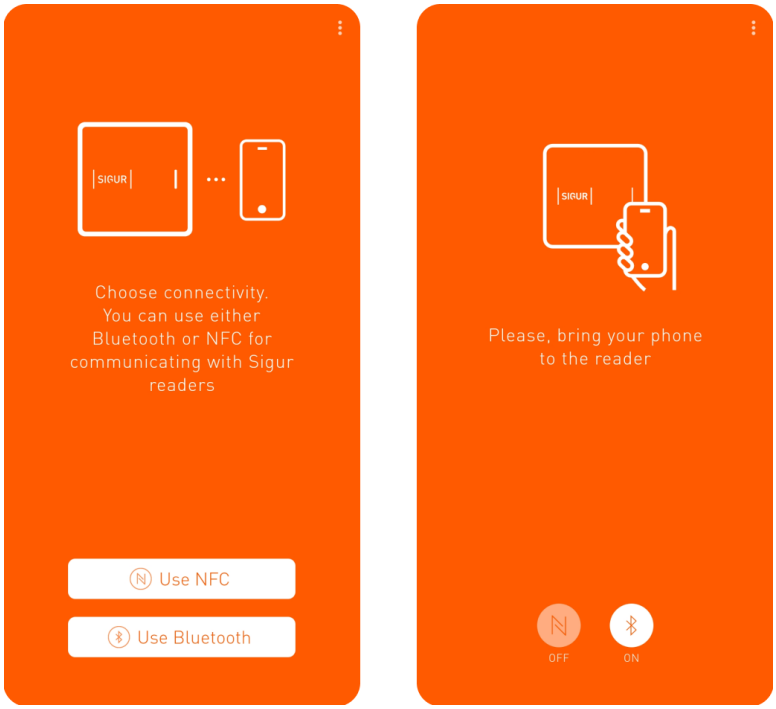
The procedure for issuing mobile identifiers in Default mode is similar to issuing passes by capturing codes from a wall reader:

1. Install the Sigur Access mobile application on your smartphone (Google Play, AppStore, Huawei AppGallery).
2. Open the application. The first time you run the application, grant it all the permissions it requests.



Mobile application permissions.

3. Select Bluetooth or NFC as the identification method and enable the corresponding module.



Selection of identification method.

4. Go to the Cardholders tab in the Client tool and select a cardholder from the list.
5. Click Capture codes from access pointsтat the top toolbar (as described in the Adding Cards section). In the window that appears, select the access point

from the list and click OK.

6. From the Action when reading a pass drop-down list that appears, select Add the credential to the selected cardholder.
7. Present the smartphone with the Sigur Access application running to the Sigur reader. Make sure that a new access code has been added to the cardholder's profile and click Apply.

12.2. Custom mode

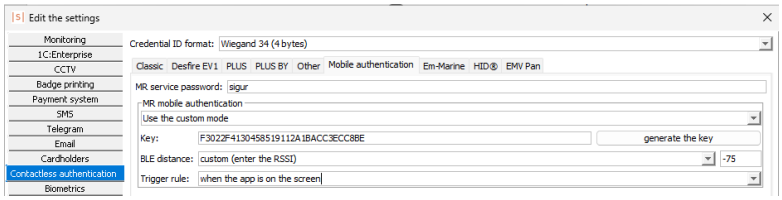
Let's set up the system to interact with mobile identifiers in Custom mode:

1. Go to File → Settings → Contactless authentication → Mobile authentication.
2. From the MR mobile authentication drop-down list, select Use the custom mode.
3. Click the generate the key button.
4. From the BLE distance drop-down list, select the mobile identification range. There are four options:

   - short-range: -45 dBm.
   - Medium-range: -75 dBm. You can select this option for now.
   - Long-range: < -75 dBm.
   - Custom (enter the RSSI). This option requires to specify the received signal strength indicator (RSSI) in dBm. Successful identification will be performed when this level is exceeded.

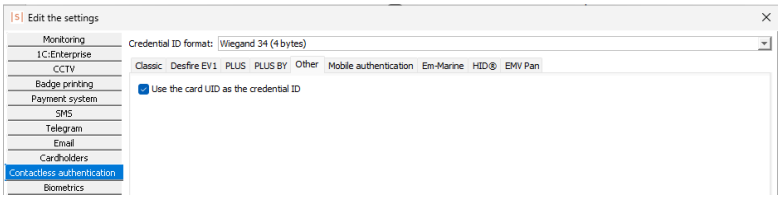
5. In the Trigger rule field, select the rule according to which identification will be performed. Three options are available:

   - When the app is on the screen: The screen is unlocked and the application is open. You can select this option for now.
   - When the screen is unlocked: The screen is unlocked and the application is running in the background.
   - Always: The application is running in the background and identification occurs even with the screen locked.



Configuring the custom mode.

6. If you want to use mobile identification on Android via HCE (in addition to NFC), go to the Others subtab and clear the Use the card UID as the credential ID checkbox.



Unchecking the Use the card UID as the credential ID box.

7. Transfer the created configuration to a Sigur reader using one of the methods described in the Configuring MR100 Readers section.

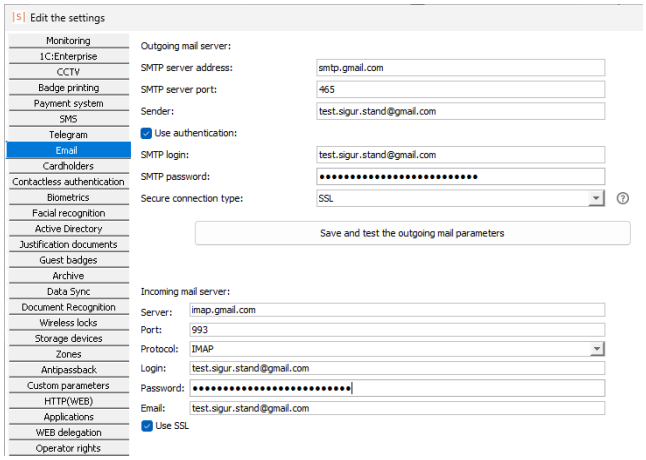
Issuing a mobile identifier in Custom mode.

The procedure for issuing a mobile identifier in Custom mode is as follows:

1. An invitation email is sent to a cardholder.
2. The cardholder installs the Sigur Access application on their smartphone.
3. The cardholder opens the invitation email on their smartphone and clicks on the link in the email.
4. The Sigur Access mobile application opens and generates a confirmation email.
5. The cardholder sends the confirmation email back to the Sigur server.

Let's send an invitation email to the cardholder. Follow these steps:

1. Go to File → Settings → Email.
2. First, it is necessary to configure the system's interaction with an external SMTP server. Sigur will use this SMTP server for email distribution. Fill in the Outgoing mail server block according to the SMTP server settings. Test the connection by clicking the Save and test the outgoing mail parameters button.
3. Then fill in the Incoming mail server block. This is the incoming mail server that Sigur will use to receive the confirmation emails.



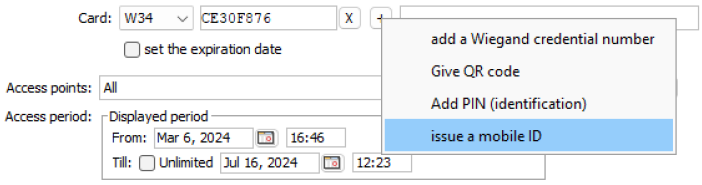
File → Settings → Email menu.

The addresses of the outgoing and incoming mail servers can be different.

It is recommended to have a separate mailbox for the needs of Sigur ACS. All emails on the incoming mail server will be deleted by the Sigur server after they are received.

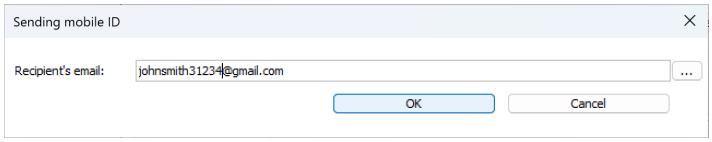
4. Go to the Cardholders tab and select the cardholder to whom you want to send the invitation.

5. On the General subtab, click + in the Card block and select Issue a mobile ID in the pop-up window.



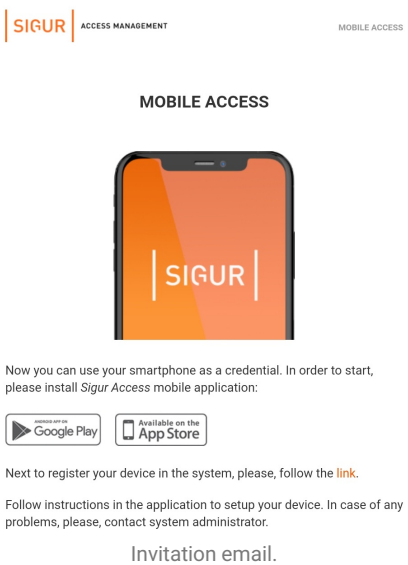
Pop-up window.

6. In the window that opens, enter the cardholder's email address and click OK.



Sending mobile ID window.

An invitation email contains a service link for the Sigur Access application, as well as links to download this application from Google Play or App Store.



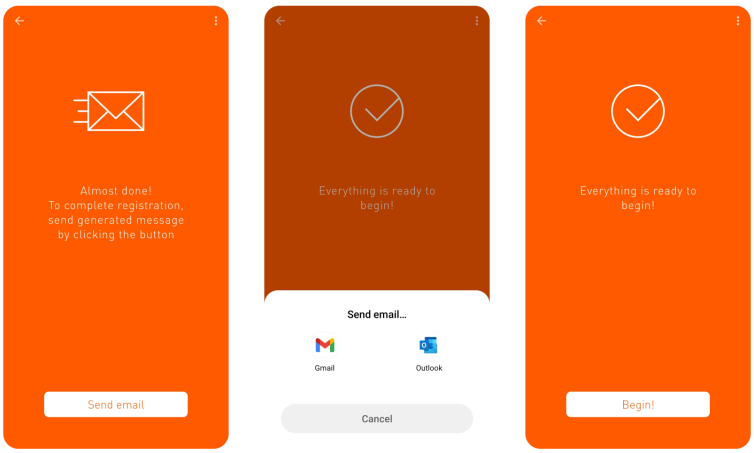
Invitation email.

Once the invitation e-mail has been received, do the following:

1. Make sure the Sigur Access application is installed on the cardholder's smartphone.
2. Open the invitation email using any email application.

> The invitation email must be opened on the smartphone that is going to be used for access.

3. Click on the service link.
4. The Sigur Access application will open and generate a reply email. The reply email contains the mobile identifier associated with this smartphone. This email will be forwarded to the phone's default email application, but will not be sent.
5. Send the reply email manually to the incoming mail address previously set in Sigur settings. If you are unable to send the email from the same device, you can copy the content of the email and send it to the incoming mail address from any other device.
6. After sending the reply email, a new access code will be added to the cardholder's profile.



Sigur Access application.

13. Event monitoring

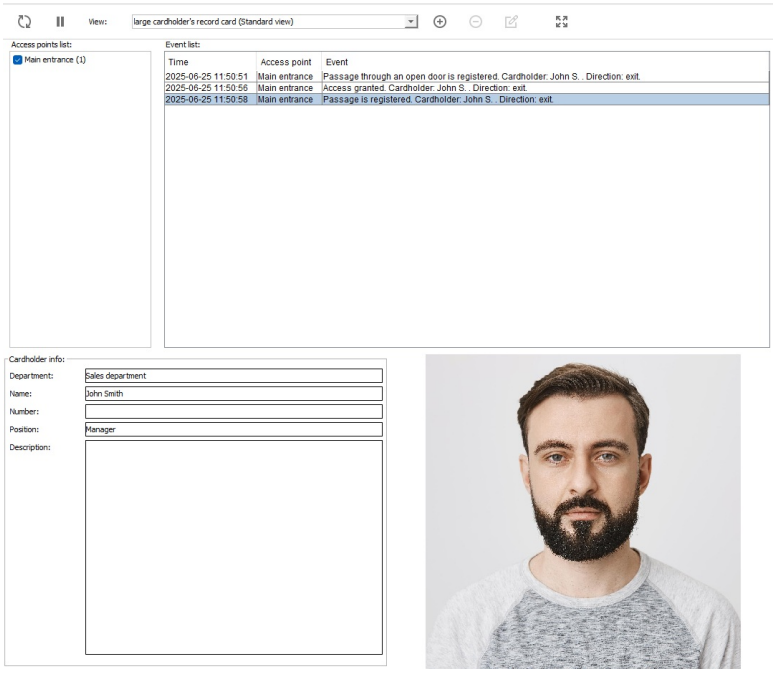
The Monitoring tab allows you to monitor system events in real time.

To get started:

1. Go to the tab and select the checkbox in the Access points list block. You can now view all system events related to the selected access point in real time.
2. Present an access card or a phone running the Sigur Access mobile application to a wall reader.

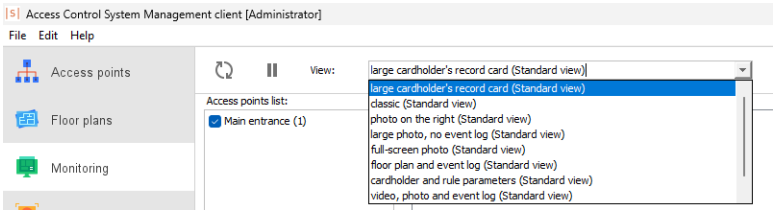
If the access code has been added to the system and the cardholder has been granted access to that access point at that time, the system will record an Access granted event, and you will see the cardholder's details and photo. On the controller, the relay to which the control line is connected will also change state.

When a signal is received from an entry sensor, the system will record a Pass type event. If the entry sensor is not installed and the Open sensor function in the access point settings is set to Not connected, always active, the Pass through an open door is registered event will be recorded immediately after the access card is presented to the reader.



Monitoring tab.

There are several default view templates in the system. To change the template, click on the View drop-down list in the top panel.



List of default view templates.

You can also create your own custom view template by clicking the + button.

14. Access rules management

Access rights in Sigur ACS are controlled by two parameters:

1. The list of access points.
2. The time zones of access.

For access to be allowed, two conditions must be met:

1. A cardholder has access to an access point.
2. A time zone (applicable to both the cardholder and the access point) allows access at that time.

If at least one of these two conditions is not met, access will be denied and the system will record a system event stating the reason for the denial.

The following sections explain how to grant access to access points and assign rules to cardholders.

14.1. Granting access to access points

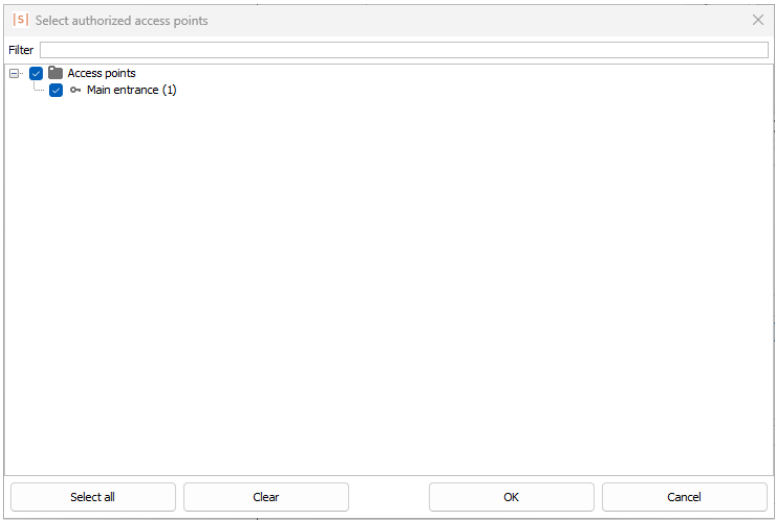
The list of access points to which the cardholder has access is displayed in the Access points parameter of a cardholder profile on the Cardholders tab.

List of access points.

New cardholders have access to all access points by default.

To allow or deny access to access points, click Change.

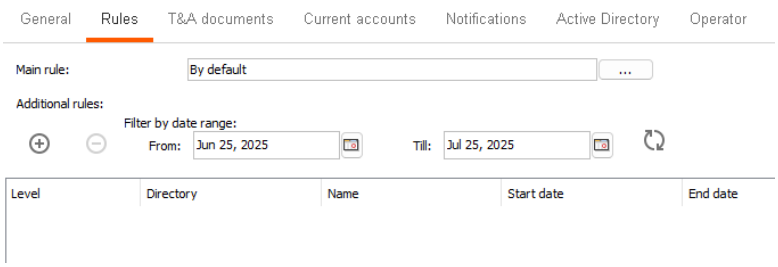
In the window that opens, select the access points that the cardholder will have access to and click OK to save the settings.



Granting access to access points.

14.2. Managing rules

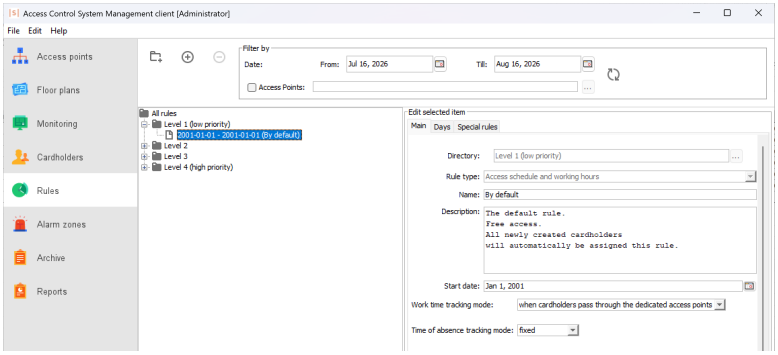
The previously created cardholder has 24/7 access to access points. This access rule is set in the Default main rule, which was automatically assigned to the cardholder when they were created. You can check which access rules are assigned to the cardholder by selecting the cardholder profile on the Cardholders tab and opening the Rules subtab.



Rules subtab.

Let's consider a case where you need to organize a special logic at one of the access points: access only after authorization by the guard at a certain time of day. To do this, you need to create two access rules: one that allows free access during selected hours, and one that restricts access, allowing the guard to make decisions about the cardholder's access to the premises.

Go to the Rules tab. There are four levels of rules. If a cardholder is assigned more than one rule with different levels, the system will give priority to the rule with the higher level.



Rules tab.

Level 1 rules have the lowest priority and apply to all access points.

The level 1 by default rule is assigned by default to all new cardholders in the system and applies to all access points. It cannot be deleted but can be edited.

Rules at levels 2 to 4 can be assigned to different access points. Let's create a new level 2 rule.

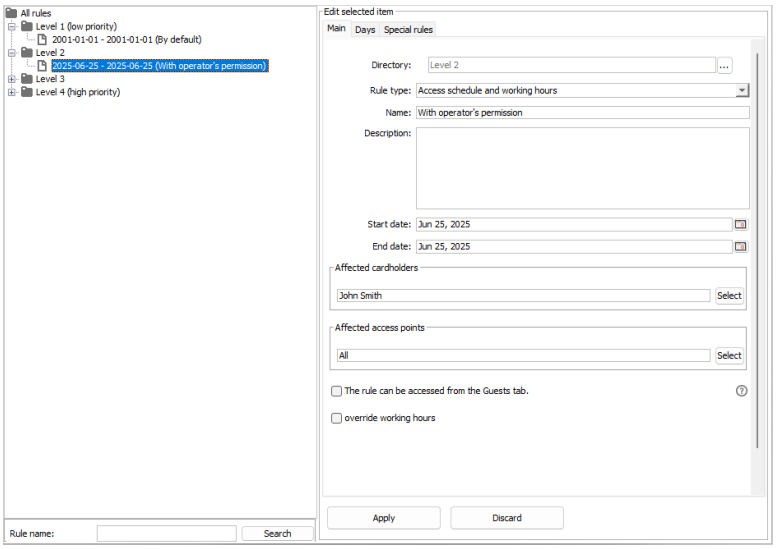
Select the Level 2 folder in the list, click +, enter the name of the new rule and click OK. A new rule will appear in the Level 2 folder and the available settings will be displayed in the right pane.

Let's have a look at the settings in the Main subtab on the right. In the Rule type parameter, Access schedule and working hours is selected by default. Leave this unchanged for now.

In the Start date parameter, enter the current date and set the desired End date for the rule.

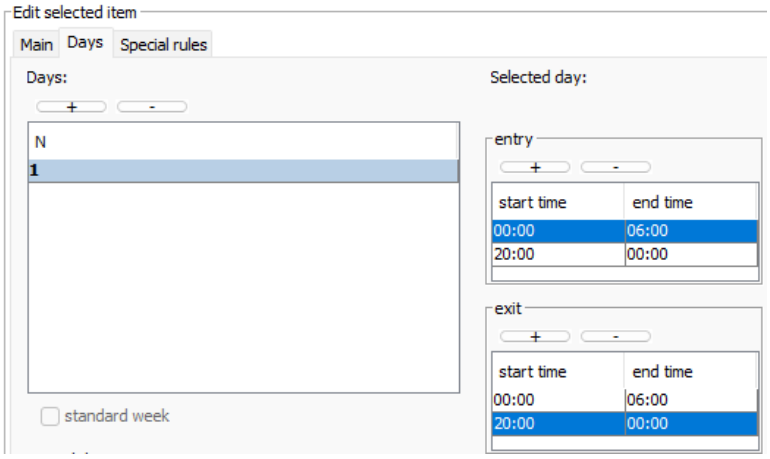
Next, click Select in the Affected cardholders section. Move the cardholder from the left part of the window that opens to the right using the >> button and click OK.

By default, a new time zone created is applied to all access points in the system. To change it, click Select in the Affected doors section. Move the required access point from the left part of the window to the right using the >> button and click OK.



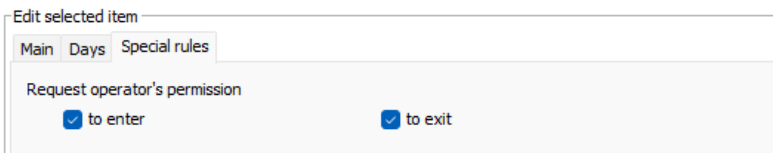
Main subtab.

Go to the Days subtab and create a new day of the rule by clicking the + button. It is necessary to add entry and exit access time intervals by clicking the + button in the Entry and Exit blocks. For example, let's limit the rule to 00:00 - 06:00 and 20:00 - 00:00 in both directions.



Access time intervals.

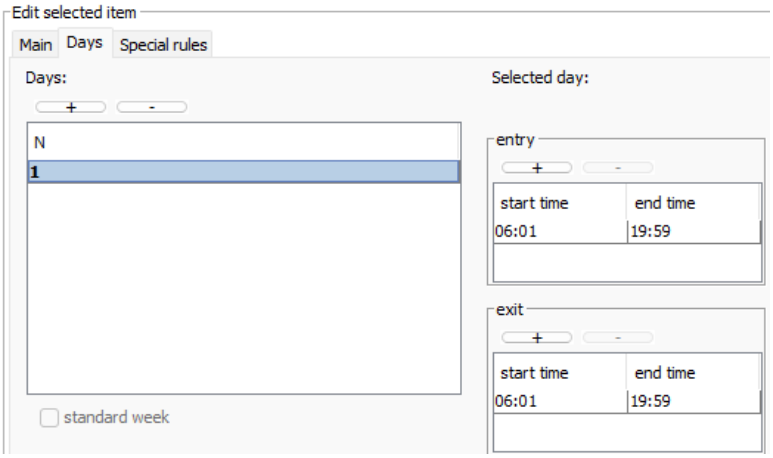
Next, go to the Special rules subtab and select the to enter and to exit checkboxes in the Request operator's permission block. Now, during the hours of 00:00 to 06:00 and 20:00 to 00:00, entry and exit access will allowed only with operator's permission. Click Apply to save the settings.



Special rules subtab.

Let's create another level 2 rule that allows free access between 06:01 and 19:59.

Ensure that this rule is assigned to the required cardholder and access point. On the Days subtab, add the specified free access interval to the Entry and Exit blocks. Leave the Special rules subtab unchanged.

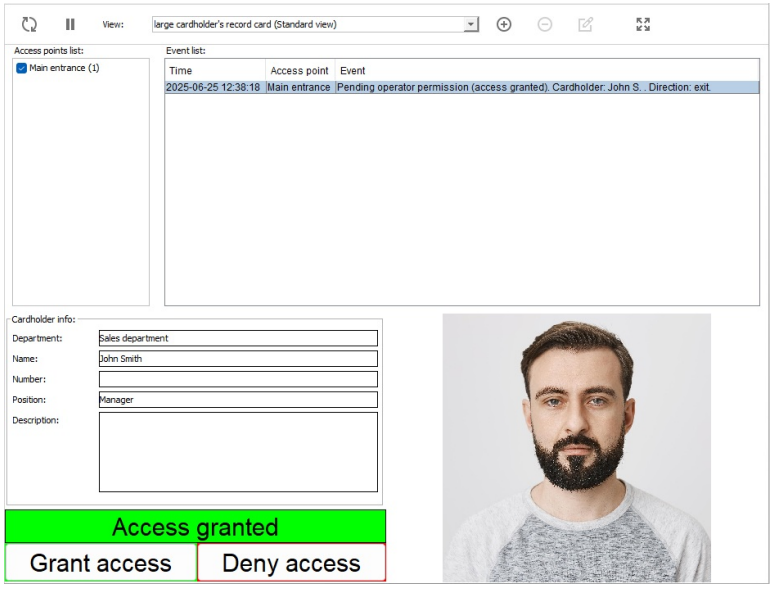


Free access interval.

Let's go to the Monitoring tab. Present the cardholder's access card to a wall reader.

If the current time falls within the the level 2 permissive rule intervals (06:01 - 19:59), the system will record the Access granted event, and the access point will be unlocked for a single entry.

If the current time falls within the level 2 restrictive rule intervals (00:00 - 06:00 and 20:00 - 00:00), the system will record the Pending operator permission (access granted) event and a panel with Grant access and Deny access buttons will appear. By clicking on them, you can grant or deny access.



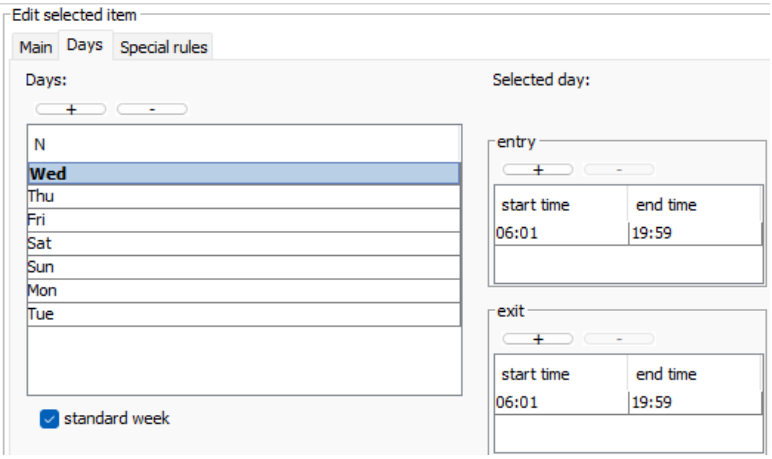
Monitoring tab.

Ensure that cardholders are not assigned multiple rules of the same level with overlapping time intervals.

If different equal access logics are in effect at the same time, the system may make access decisions in an unpredictable way.

Currently, only one day is added to the Days subtab of the rules. This means that the access rules will be the same every day. You can add a sequence of up to 32 days, which will be repeated cyclically until the rule expires.

If you add a multiple of seven days, the Standard week checkbox will be available. If you select this option, the day numbers will change to the names of the days of the week from the start date of the time zone.

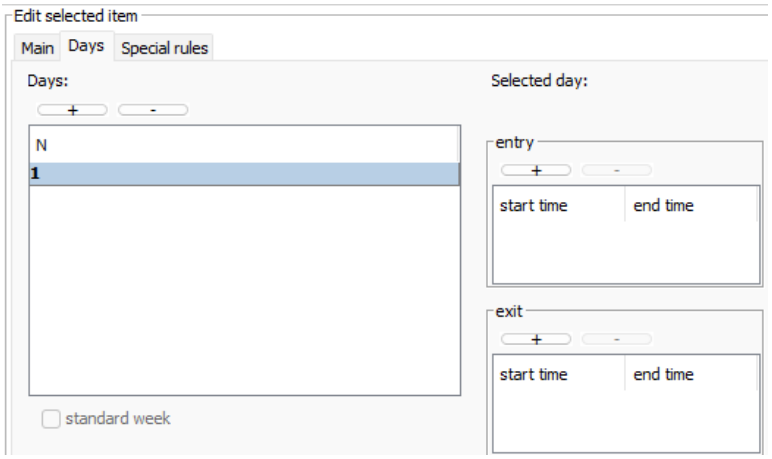


Standard week checkbox.

14.3. Restricting access using rules

If you need to deny access to an access point at a particular time, you can simply exclude that time interval from the Days subtab of a rule. This means that if a cardholder's access card is presented to a wall reader during the excluded time, the system will record the Access denied. Access is not allowed during this time event.

If a cardholder is assigned a rule, as in the example below, access will be denied 24 hours a day. Such rule should be set at a level above the other rules.



Example of a rule that denies access at any time of the day.

15. User management

You can assign user rights to each cardholder, restrict access to certain system functions and set a password for logging in to the Client tool.

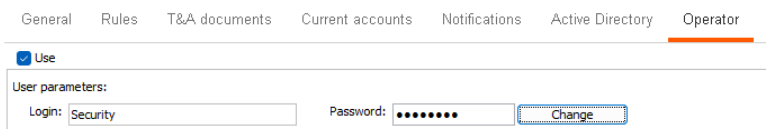
By default, there is only one user in the system: Administrator.

Creating a new user.

Let's consider the process of creating user rights for a security operator. The operator's rights will be limited to viewing real-time system events and confirming access via the Monitoring tab.

To do this, go to the Cardholders tab, open the Operator subtab in the cardholder profile and select the Use checkbox.

Let's set the login of the user, e.g. Security. To change the password, click Change. In the window that opens, enter the new password for the Security user twice and leave the User password Administrator field blank if you haven't already set it. Click OK to apply the settings.



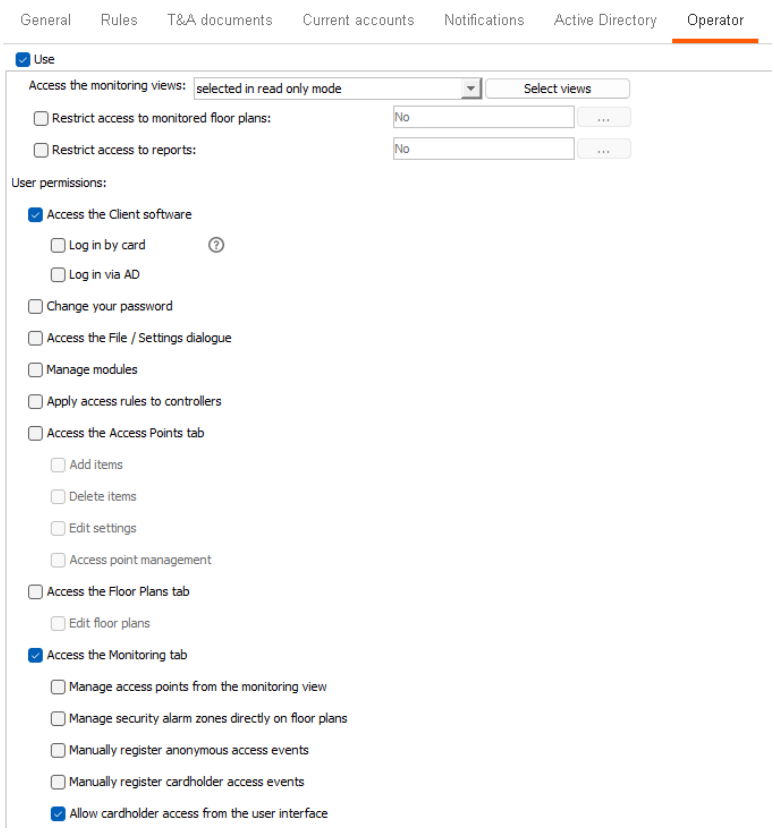
Operator subtab.

Next, let's restrict the user's access to view templates on the Monitoring tab.

In the Access the monitoring views block, select selected in read only mode from the drop-down list and click Select views. In the window that opens, select one of the templates, e.g. Large cardholder's record card (Standard view) and click OK. In the User permissions block, clear all checkboxes except Access the Monitoring tab and Allow cardholder access from the user interface.

This set of permissions allows the Security operator to grant access by clicking the Grant access button on the Monitoring tab, or by presenting their access card to the integrated USB reader (ACR1252U or Iron Logic Z-2 USB). The process of creating a time zone with guard authorization is described in detail in the Access Rules Management section.

Click Apply to save the settings.



Security operator's rights.

You will now need to restart the Client tool. Select the Security login from the User drop-down list, enter the password you set previously and click OK. After successful login, only the Monitoring tab will be available to this user.

In this case, the Monitoring tab will initially open in full-screen mode. To exit full-screen mode, press Esc or Alt+Enter.

Setting the logout password.

You can also set a password for the user to log out of the Client tool. In this case, the user will not be able to close the system window. To exit the Client tool, the user will need to go to the File → Exit menu and enter a password.

To enable this option, select the Request the password to exit checkbox in the user rights settings and enter the password in the text box.

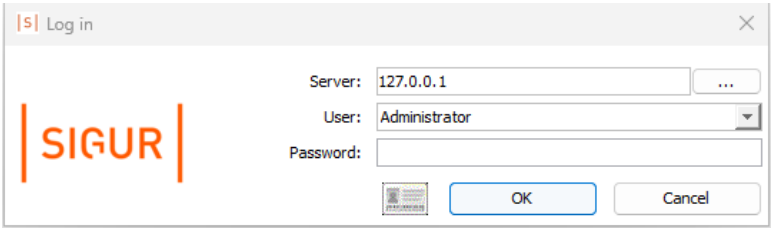
Request the password to exit checkbox.

Setting the Administrator password.

The Administrator user does not have a password by default, but you can set it. To

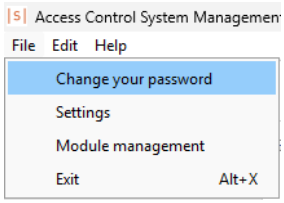
set the password, follow these steps:

1. Log in the Client tool as Administrator.



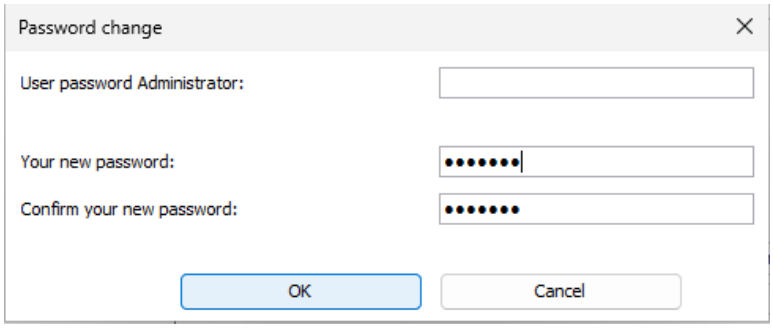
Log in window.

2. Click File and select Change own password.



File menu.

3. In the window that opens, enter the new password twice and click OK. Leave the User password Administrator field blank as this is the first time you are setting the password.



Password change window.

16. Antipassback and zone control

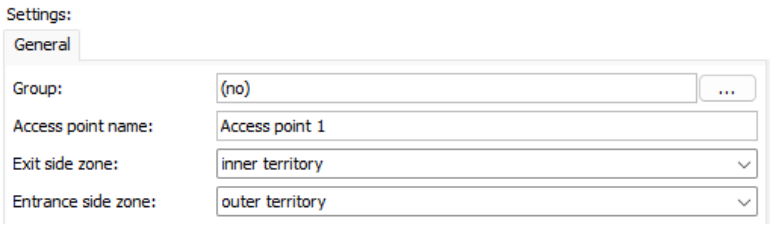
When antipassback is enabled, Sigur ACS monitors the cardholder's location and blocks access attempts from areas where the system believes the cardholder is not supposed to be at the moment.

Dividing the premises into zones.

Before using the antipassback function, you need to divide the premises into zones.

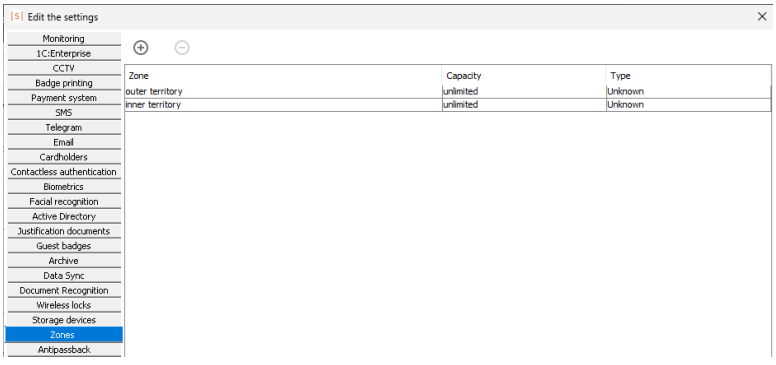
To do this, start the Client tool, go to the Access points tab and select an access point from the list. By default, the Exit side zone and Entrance side zone parameters in the Settings block are set to outer territory.

The Entrance side zone parameter specifies the zone where the exit reader is located. Likewise, the Exit side zone parameter specifies the zone where the entry reader is located. Set the Exit side zone parameter to Inner territory and click Apply.



Access point settings.

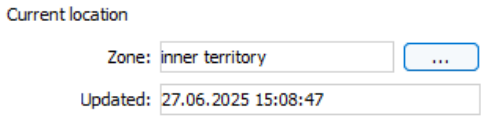
In the File → Settings → Zones menu, you can see a list of all the zones in the system.



File → Settings → Zones menu.

The location of cardholders changes when they pass through an access point with the configured zoning. Go to the Monitoring tab, present the card to the entry reader, and pass through the access point. Verify that the system has recorded either a Pass or Pass through open door event.

Return to the Cardholders tab. The cardholder's current location and the time of the location change are displayed at the bottom of the window in the Current location block. The Zone parameter now contains the value Inner territory.



Current location block.

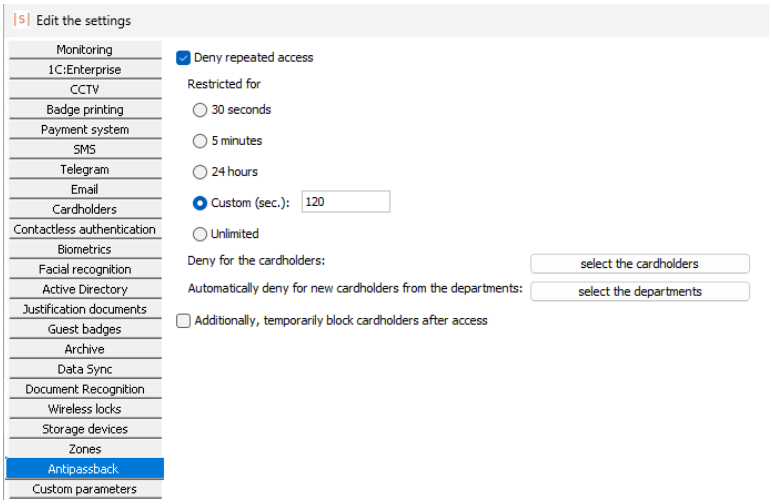
If necessary, the location can be changed manually by clicking the ... button, selecting the required zone, and clicking OK.

Enabling antipassback.

Let's activate the antipassback function now.

Go to the File → Settings → Antipassback menu and select the Deny repeated access checkbox. In the Restricted for block you can set the time after which cardholders will be granted access, regardless of their location. Let's set the control time to 120 seconds in the Custom (sec) window.

By default, antipassback is applied to all cardholders in the system. You can later change the list of cardholders by clicking the Select the cardholders button in the Deny for the cardholders block. You can also apply the Automatically deny for new cardholders from departments action to specific departments. Click OK to save your settings.



File → Settings → Antipassback menu.

Present the card to the entry reader again. The system will register an Access denied. Antipassback alert event and the door will not be unlocked. If you present the card to the enter reader, access will be allowed.

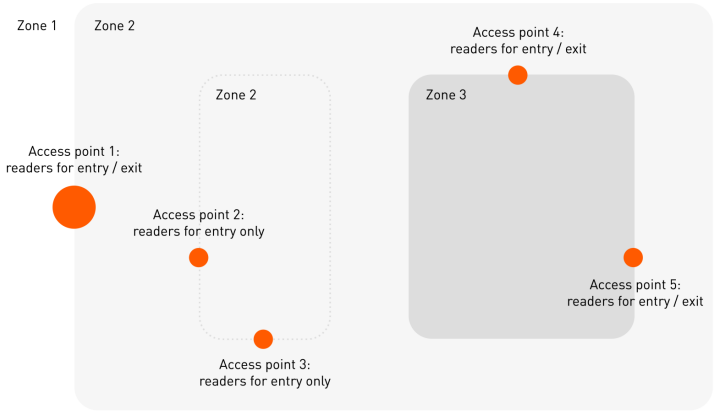
After the 120 seconds we set earlier, from the moment the cardholder passed through the access point in the exit direction, the system will be able to allow access in that direction again.

Time	Acc...	Event
2025-06-25 13:33:09	Main ...	Access granted. Cardholder: John S. . Direction: exit.
2025-06-25 13:33:11	Main ...	Passage is registered. Cardholder: John S. . Direction: exit.
2025-06-25 13:33:13	Main ...	Access denied. Antipassback alert. Cardholder: John S. . Direction: exit.

Access denied. Antipassback alert event.

If there is no exit reader and the door is exited using a push-button, the antipassback function will not operate correctly for that access point because the location of cardholders doesn't change when leaving the room.

In this case, you need to exclude the room from zone control by entering the same values for the Exit side zone and Entrance side zone parameters for that access point on the Access points tab. In the example below, access points 2 and 3 don't have exit readers, so the Entrance side zone and Exit side zone values for these access points are the same.



Zone control.

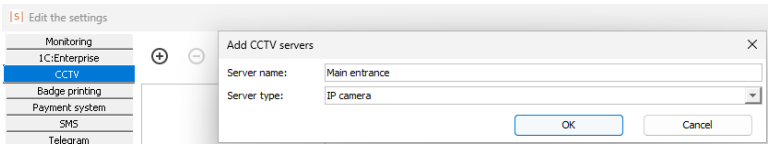
17. Video surveillance

Sigur ACS supports interoperability with various video surveillance systems and allows users to receive both live and archived video from most IP cameras that support RTSP streaming.

17.1. IP cameras integration

Let's configure the system's interaction with an IP camera.

To do this, go to File → Settings → CCTV menu and add a new source by clicking the + button. In the window that opens, enter any server name, set Server type to IP camera and click OK.



Add CCTV servers window.

In the Stream URL parameter, specify the stream URL as:

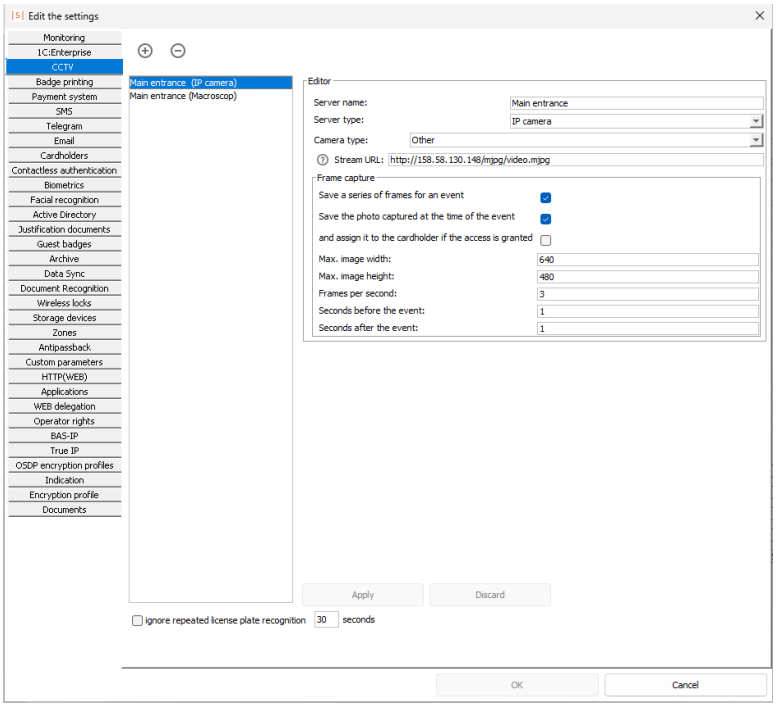
protocol://[user:password@]ip-address:port/resource

Examples:

- http://192.168.0.10/mjpg/video.mjpg
- rtsp://192.168.1.15:554/axis-media/media.amp
- rtsp://root:root@192.168.1.10/media0

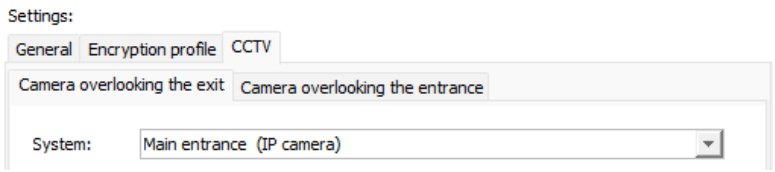
If you are not sure of the stream URL format, please contact your camera manufacturer.

Activate the Save the photo captured at the time for an event and Save a series of frames for an event checkboxes to be able to view photos and videos from the IP camera on the Archive tab later. Click Apply and OK to save the settings.



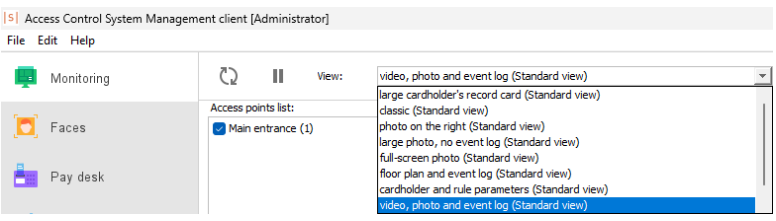
IP camera settings.

Now go to the Access points tab and select the access point where the IP camera is located. A new CCTV subtab will appear in the Settings block. Open the CCTV subtab and select the Camera overlooking the entrance camera subtab. When you click on the System drop-down list, you will be offered a choice of all the CCTV sources added to the system. Select the previously added IP camera and click Apply.



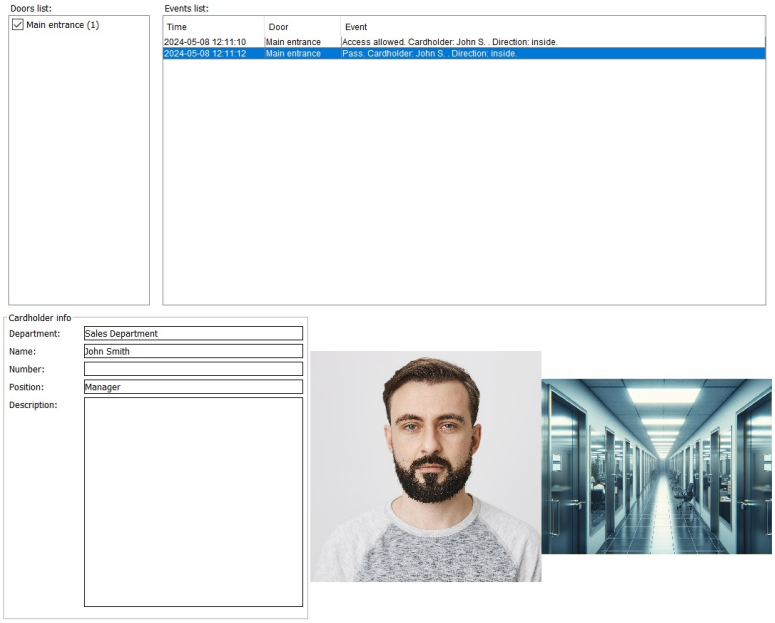
Access point settings.

Go to the Monitoring tab and select the default view Video, photo and events log from the drop-down list at the top of the window. Ensure that the checkbox for the required access point is selected in the Access points list block.



View drop-down list.

Next, present the card to the entry reader. In addition to information about the cardholder, you will see live video from the IP camera you added to the system earlier.



Monitoring tab.

To view the archive of images and video recordings from the IP camera, please refer to the instructions in the corresponding section.

17.2. Milestone integration

The following features are currently available as part of the integration with the Milestone video management system:

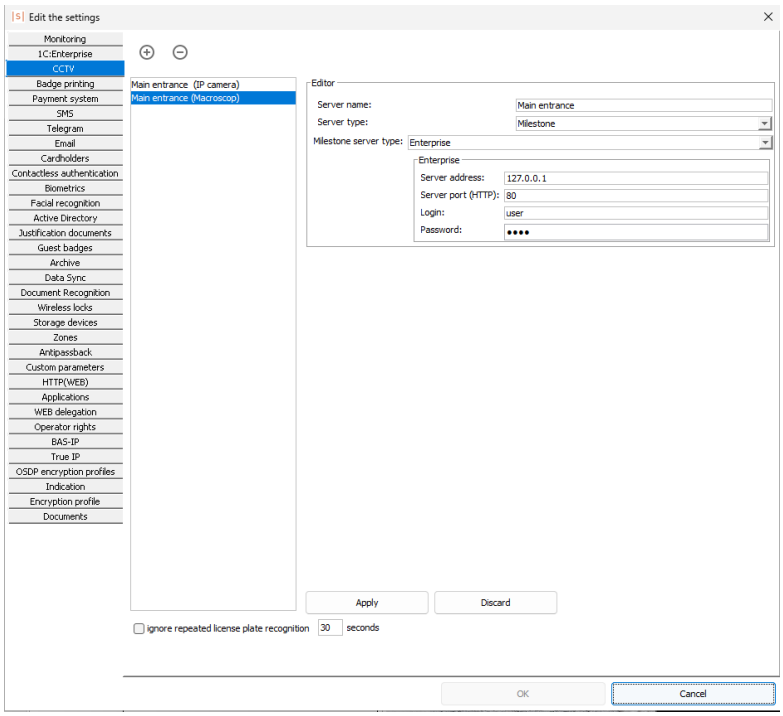
- Live video streaming on the Monitoring tab and on floor plans in the Sigur Client tool.
- Accessing the Milestone video archive from the Sigur Client tool.
- Sending Sigur ACS events to a Milestone server. This feature requires a special plugin:

    - To get the plugin, please follow this link.
    - For instructions on how to configure the functionality of the plugin, please contact our Technical Support: support@sigur.com.

Let's set up the interaction between the systems to get live and archived video.

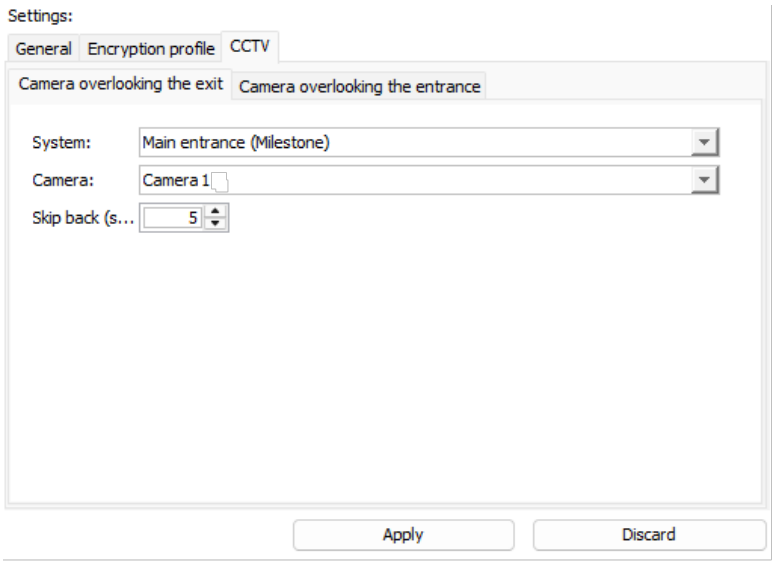
- In the File → Settings → CCTV menu, add a new source by clicking the + button. In the window that opens, enter the server name, set Server type to Milestone and click OK.
- Select the Milestone server type (Enterprise or Corporate).

- Enter the IP address of the Milestone server.
- Enter the server port (HTTP). The default value is 80.
- Enter the login and password set in the Milestone software.
- Click Apply and OK to save the settings.



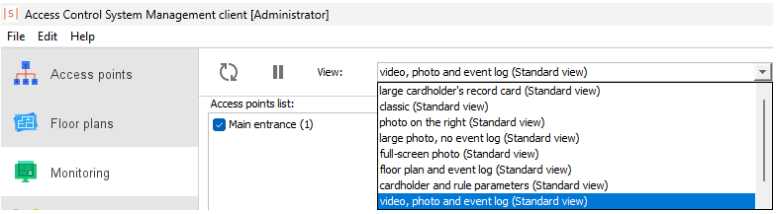
Milestone server settings.

Now go to the Access points tab and select the access point where the Milestone camera is located. Click on the CCTV subtab and then open the Inside direction camera subtab. When you click on the drop-down list in the System parameter, the added Milestone source will appear in the list. If the connection to the Milestone system is successful, a list of channels will be available in the Camera drop-down list. Select the required channel and click Apply.



Access point settings.

Go to the Monitoring tab and select the default view Video, photo and events log from the drop-down list at the top of the window. Ensure that the checkbox for the required access point is selected in the Access points list block.



View drop-down list.

Next, present the card to the reader in the Entry direction. In addition to the cardholder information, you will see live video from the selected Milestone video channel.

To view the Milestone system snapshot and video archive, please refer to the instructions in the corresponding section.

17.3. Trassir integration

The following features are currently available as part of the integration with the TRASSIR video surveillance system:

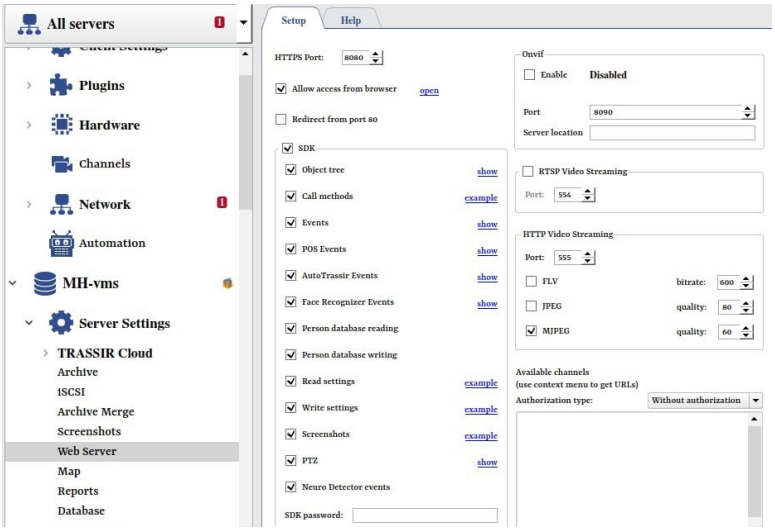
- Live video streaming on the Monitoring tab and on floor plans in the Sigur Client tool.
- Accessing the TRASSIR video archive from the Sigur Client tool.
- Receiving recognized vehicle license plate numbers.
- Using face recognition (TRASSIR Face Recognition module is required) and temperature measurement (TRASSIR Thermal Camera module is required).

- Sending Sigur ACS events to a TRASSIR server (requires a TRASSIR Sigur module).

Please contact TRASSIR for more details on TRASSIR modules.

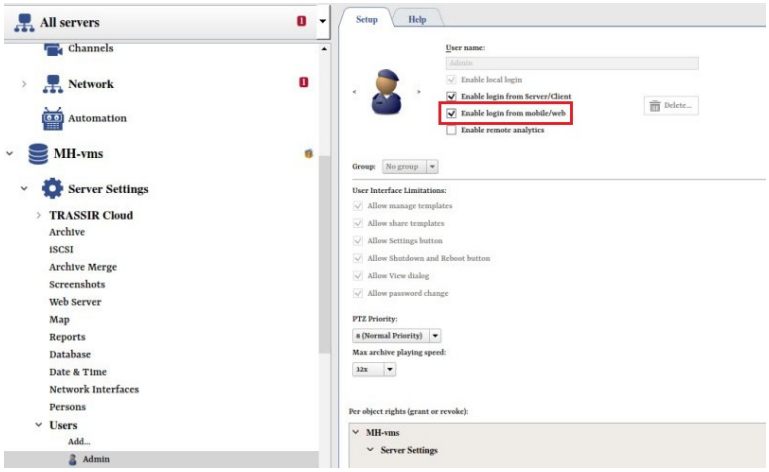
Let's set up the interaction between the systems to get live and archived video. Set up the TRASSIR server (versions 3.x, 4.x) as follows:

- Under the Server Settings → Web Server → Setup:
  - Select the SDK checkbox and its nested checkboxes.
  - Set the SDK password.
  - Under HTTPS Port, set the port (default - 8080).
  - Under HTTP Video Streaming, set the port (default is 555) and select the MJPEG checkbox.



TRASSIR server settings.

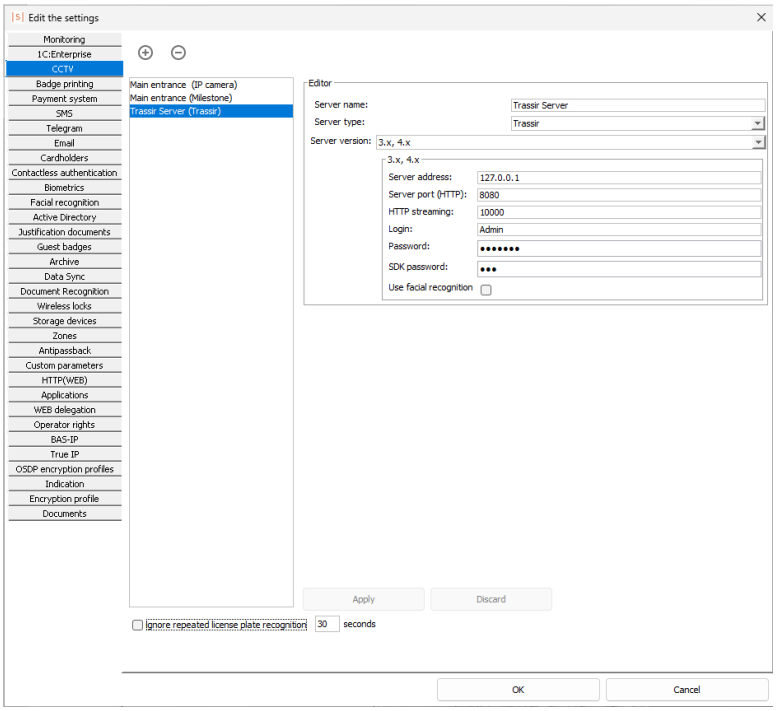
- To connect Sigur clients to the TRASSIR server you can use one of the existing user profiles or add a new one. Select the Enable login from mobile/web checkbox in the user profile settings (under Server Settings → Users → User profile → Setup).



Trassir user profile settings.

Sigur Client tool configuration:

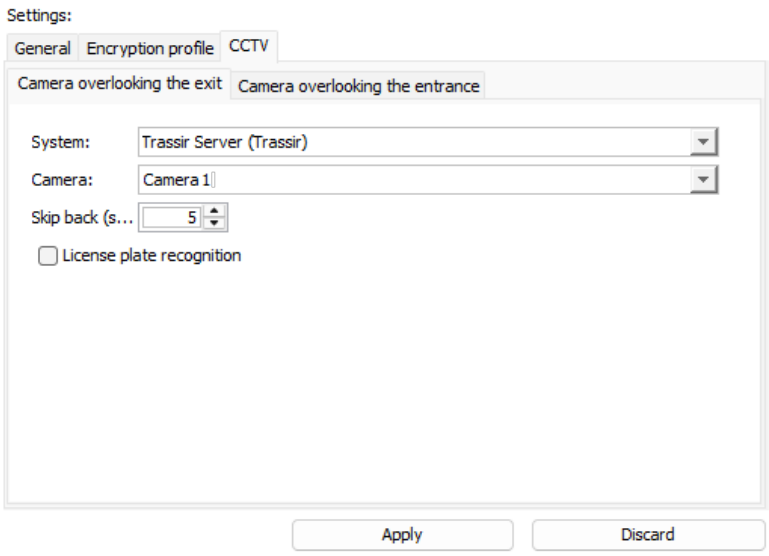
- In the File → Settings → CCTV menu, add a new source by clicking the + button. In the window that opens, enter the server name, set Server type to Trassir and click OK.
- Set the TRASSIR server version to 3.x, 4.x.
- Enter the IP address of the TRASSIR server.
- Specify the server port (HTTP). The default value is 8080.
- Specify the HTTP Streaming port. The default value is 10000.
- Enter the login, password and SDK password.
- Click Apply and OK to save the settings.



Settings for the TRASSIR server in Sigur.

Now go to the Access points tab and select the access point where the TRASSIR camera is located.

Next, click on the CCTV tab and select the Camera overlooking the entrance camera subtab. Click on the drop-down list in the System parameter and select the added TRASSIR source. If the connection to the CCTV system is successful, a list of channels will be available in the Camera drop-down list. Select the required channel and click Apply.



Access point settings.

Go to the Monitoring tab and select the default view Video, photo and events log from the drop-down list at the top of the window. Ensure that the checkbox for the required access point is selected in the Access points list block.

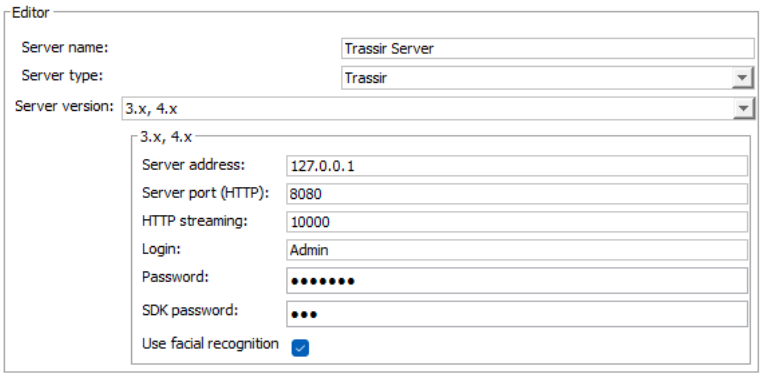
Next, present the card to the reader in the Entry direction. In addition to the cardholder information, you will see live video from the selected TRASSIR video channel.

To view the TRASSIR system snapshot and video archive, please refer to the instructions in the corresponding section.

17.4. Trassir facial recognition

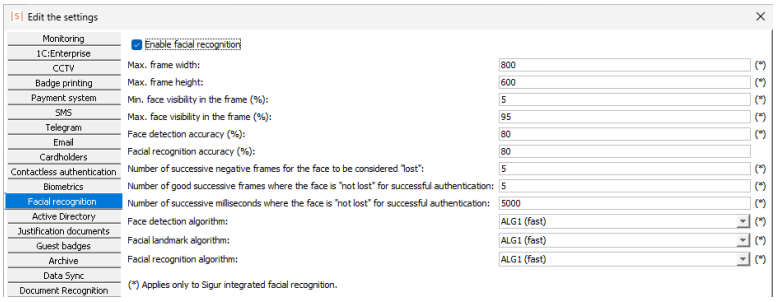
Let's set up the system to allow access to the premises via facial recognition, using TRASSIR as an example.

To do this, go to File → Settings → CCTV, select the TRASSIR server you added earlier, select the Use facial recognition checkbox and click Apply.



TRASSIR server settings.

Next, go to the File → Settings → Facial recognition and select the Enable facial recognition checkbox. You can leave the values of all parameters unchanged for now and save the settings by clicking OK.



Facial recognition tab.

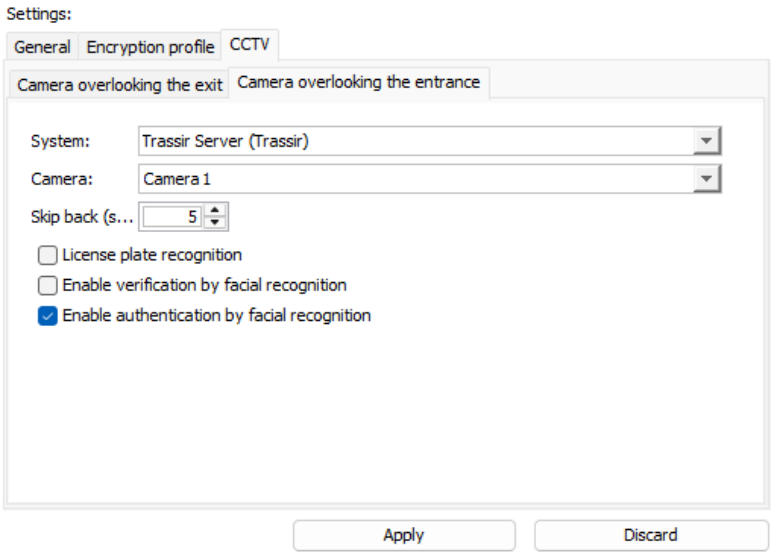
There are two facial recognition access modes available in the system:

1. Facial identification. The access decision is made by the Sigur ACS as soon as it receives a facial recognition event from an external system.
2. Facial verification. The access decision is made when a face is recognized after the main identifier (e.g., a card) is presented to a wall reader.

Facial identification.

Let's configure access in the Entry direction in the facial identification mode:

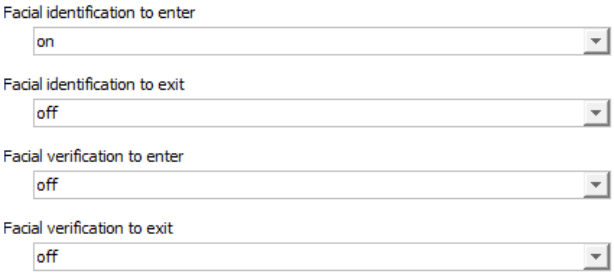
- Go to the Access points tab and select the access point to which the TRASSIR camera is assigned. Then click the CCTV tab, open the Camera overlooking the entrance subtab and select the Enable authentication by facial recognition checkbox. Click Apply to save the settings.



Access point settings.

- Grant a cardholder access to the TRASSIR camera's associated access point.
- Next, create a new level 2 rule on the Rules tab. Apply this rule to both the cardholder and the access point associated with the TRASSIR camera. Ensure that the Days subtab of the rule contains at least one day and time interval of access to this access point.

- Move to the Special rules subtab of that rule. When creating a new rule, Facial identification to enter and Facial identification to exit options are enabled by default. Ensure that the Facial identification to enter parameter is set to On.



Time zone settings example.

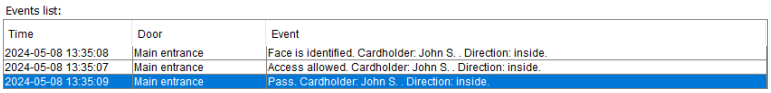
- Save the settings by clicking Apply.

It is very important that the direction in which the camera is assigned to the access point matches the access logic for facial recognition in the time zone settings.

Now let's move to the Monitoring tab.

When the TRASSIR system recognizes a face, an event of the type Face is

identified is sent to the Sigur system. If the facial identification logic is configured, the system allows access in the Inside direction immediately after the cardholder's face is recognised.

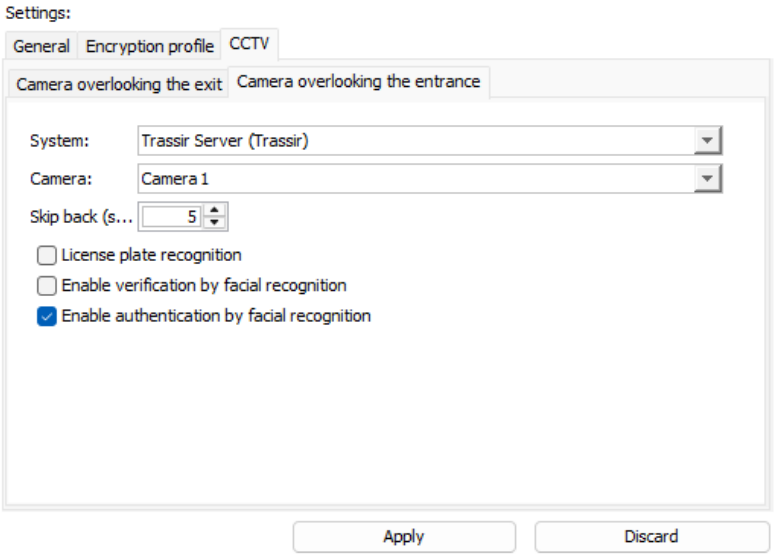


Events list.

Facial verification.

Now let's complicate the process of allowing access in the Entry direction by configuring the facial verification logic. In this case, the system will wait for a facial recognition event only after the cardholder's access card is presented to the wall reader.

To do this, go to the Access points tab and select the access point to which the TRASSIR camera is assigned. Then click the CCTV tab, select the Camera overlooking the entrance subtab and select the Allow verification by facial recognition checkbox. Clear the Enable authentication by facial recognition checkbox. Click Apply to save the settings.



Access point settings.

Let's go back to the Rules tab.

Edit the Special rules subtab of the level 2 rule you created earlier by setting the Facial identification to enter parameter to Off.

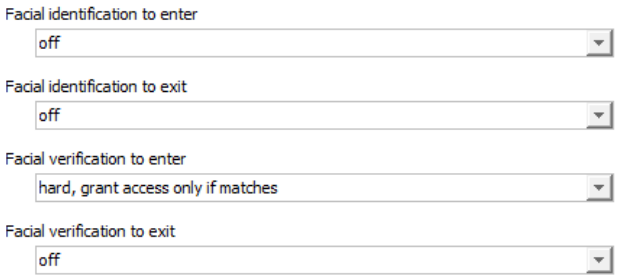
The following access options are available in the facial verification mode:

- Soft, grant access anyway. In this case, the system allows access even if the cardholder's face is not recognized. The event Face is not identified will be

logged.

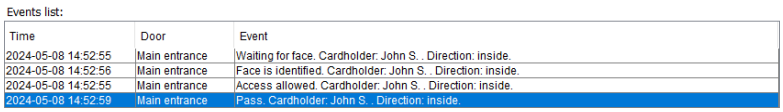
- Hard, grant access only if matches. The system allows access only after receiving a facial recognition event of the cardholder to whom the access card belongs.
- Soft group, grant access even if it does not match with any faces from the department. The system allows access even if the cardholder's face or the face of their colleagues from the department is not recognized. The event Face is not identified will be logged.
- Hard group, grant access only if it matches a face from the department. The system allows access if the face of the cardholder or one of their departmental colleagues is recognized.

For now, in the Facial verification to enter block, select Hard, grant access only if matches from the drop-down list. Click Apply to save the settings.



Rule's settings example.

Go to the Monitoring tab. Present the card to the wall reader in the Entry direction. The system will start waiting for a facial recognition event to be received from the Trassir system. Access will be granted after receiving such an event.



Events list.

18. Face recognition terminals integration

At present, Sigur has integrated with several facial recognition systems. This guide focuses on setting up the system's interaction with Hikvision facial recognition terminals.

18.1. Hikvision face recognition terminals

The integration requires a license based on the number of Hikvision terminals connected to Sigur and the type of functionality used (basic - face recognition only, or advanced - face recognition + temperature measurement).

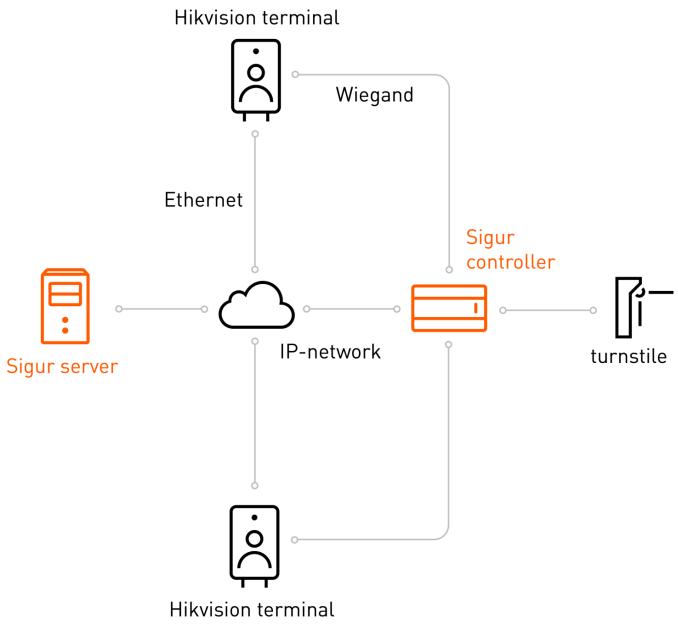
The following Hikvision terminal models are implemented and tested:

- Hikvision DS-K1TA70MIT.
- Hikvision DS-K1T671TM-3XF.
- Hikvision DS-K5671-3XF/ZU.
- Hikvision DS-K5604A-3XF/V.
- Hikvision DS-K1T671M.
- Hikvision DS-K1T341AM.
- Hikvision DS-K1T642MW.
- Hikvision DS-K1T671TMW.
- Hikvision DS-K5671-ZU.
- Hiwatch ACT-T1341M.

A Hikvision face recognition terminal must support the ISAPI protocol to interact correctly with Sigur.

18.1.1. Connecting a face recognition terminal to a Sigur controller

A face recognition terminal is connected to the local IP-network of the facility and to a Wiegand port of a Sigur controller, e.g. PORT3.



System interaction diagram.

The wiring diagram for connecting face recognition terminals to Sigur controllers can be found in the appendix to this manual.

18.1.2. Hikvision settings

The initial settings are made directly on the device itself.

It is necessary to:

1. Create a user when activating the device (set login and password).
2. In the Menu → Communication Settings → Network section, set the static IP address of the terminal, the netmask, the gateway address and disable DHCP.
3. In the Menu → Communication Settings → Wiegand section, enable the Wiegand port, specify the Output direction and select the required Wiegand format.
4. In the Menu → Access Control Settings section, select the type of identification: by face only, by card only, by card and face.

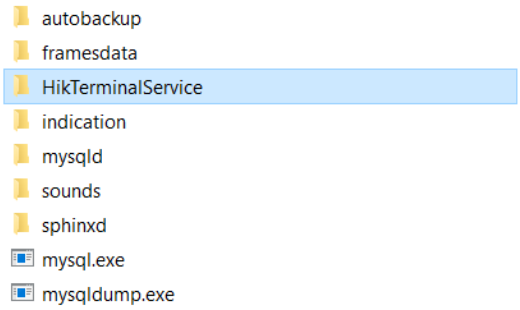
18.1.3. Sigur settings

Download the Hikvision integration service files (Windows OS, Linux Debian OS, Red Hat Linux OS).

Next, follow the instructions below:

- **Windows OS.** Extract the files from the downloaded archive to the server

directory in the software installation folder (e.g. C:\Program Files (x86)\SIGUR access management\server\). The server directory should contain the HikTerminalService directory, which contains all the necessary components for the integration.



SIGUR access management\server\ directory.

- **Linux Debian OS**. Install the downloaded package on the Sigur server using the command:

  ```
  sudo dpkg -i hikterminalservice-x.x_all.deb
  ```

  where x.x is the version of the integration service.

- **Red Hat Linux OS**. Install the downloaded package on the Sigur server using the command:

  ```
  sudo rpm -i hikterminalservice-x.x-0.el7.noarch.rpm
  ```

  where x.x is the version of the integration service.

After that, restart the server module from the State tab in the Server Administration tool.

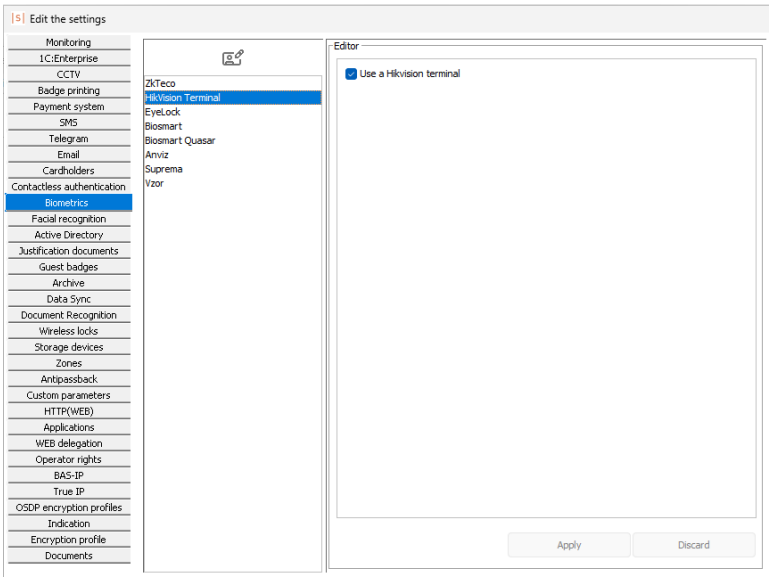
Let's assume that the Hikvision face recognition terminal is located at the entrance:

- Start the Client tool.
- Go to the Access points tab and select the access point to which you want to connect the Hikvision terminal.
- Click Settings and assign the Port reader for enter (or Entrance reader port - extended) function to the controller terminals to which the Hikvision terminal is connected (e.g. PORT3), then click OK.

Sigur controller settings example.

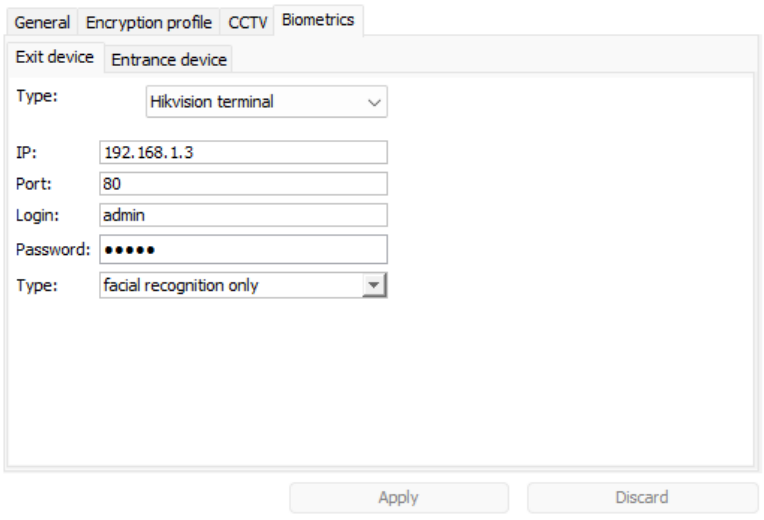
- Go to File → Settings → Biometrics, select the Hikvision Terminal and enable

Use Hikvision terminal checkbox. Click Apply and OK to save the settings.



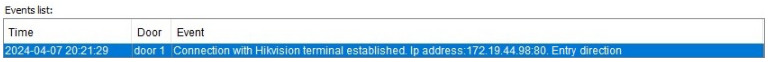
File → Settings → Biometrics menu.

- A new Biometrics subtab will appear in the Settings block on the Access points tab. Expand the Entrance device subtab (according to the direction assigned to the controller port).
- Select Hikvision terminal from the Type drop-down list and enter the IP address of the Hikvision terminal (specified in its settings), port (port 80 is used by default), login and password of the user created when the device was activated. Click Apply to save the settings.



Access point's settings.

Go to the Monitoring tab. If the connection to the Hikvision terminal is successful, the system will record the corresponding event.


Events list:

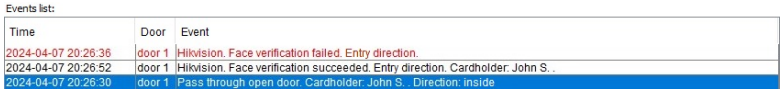
Time	Door	Event
2024-04-07 20:21:29	door 1	Connection with Hikvision terminal established. Ip address:172.19.44.98:80. Entry direction

Events list.

To transfer personnel information to the Hikvision terminal:

1. Add a photo to a cardholder's profile.
2. Assign the cardholder an access credential in Wiegand-26 or Wiegand-34 (HEX) format. If the cardholder does not have a physical access card, you can manually assign any number in these formats.
3. Grant the cardholder access to the access point to which the Hikvision terminal is assigned.

When the cardholder's face is recognized, the Hikvision terminal sends the corresponding event to the Sigur server via the IP-network and sends the Wiegand access code to the Sigur controller.


Events list:

Time	Door	Event
2024-04-07 20:26:36	door 1	Hikvision. Face verification failed. Entry direction.
2024-04-07 20:26:52	door 1	Hikvision. Face verification succeeded. Entry direction. Cardholder: John S..
2024-04-07 20:26:30	door 1	Pass through open door. Cardholder: John S.. Direction: inside

Events list.

The Hikvision terminal also sends temperature measurement results and temperature threshold violation alerts to the Sigur server (if enabled in the terminal settings).

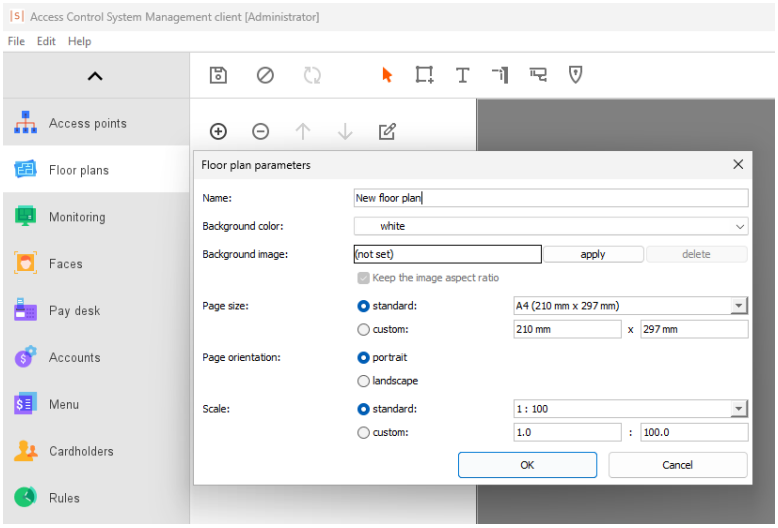
The recorded events can be viewed on the Monitoring and Archive tabs.

If you have an Event Response license, you can set system responses to events sent from the Hikvision terminal. Refer to the Event Responses section for more details on this functionality.

19. Floor plans

The Floor plans tab is used to create and configure floor plans, including specifying access points and CCTV cameras locations.

To create a new floor plan, click the + button. In the Floor plan parameters window that opens, you can enter any name, upload a background image and set the size and orientation of the plan. You can leave these values unchanged for now and click OK.



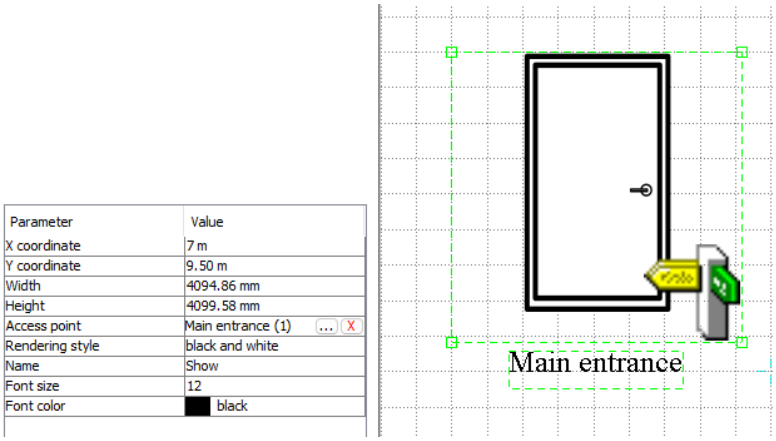
Creation of a new floor plan.

To add an access point, select the Add access points tool from the top toolbar. Use the mouse to place an item on the map.

Add access points tool.

In the properties window on the left, locate the Access point parameter and click the ... button. Select the required access point from the list that appears and click OK.

The image on the floor plan will change according to the type of access point selected.



Door on the floor plan.

The current status of the access point is also displayed on the floor plan.

Access point status icons.

Status icon	Description
	The access point is in normal mode.
	The access point is in unlocked mode.
	The access point is in locked mode.
	There is no connection with the access point.
	Access point status could not be obtained.
	The door is being held open (only for Door type access points with the Time in open state for door before close the door signal activation option enabled in the settings).

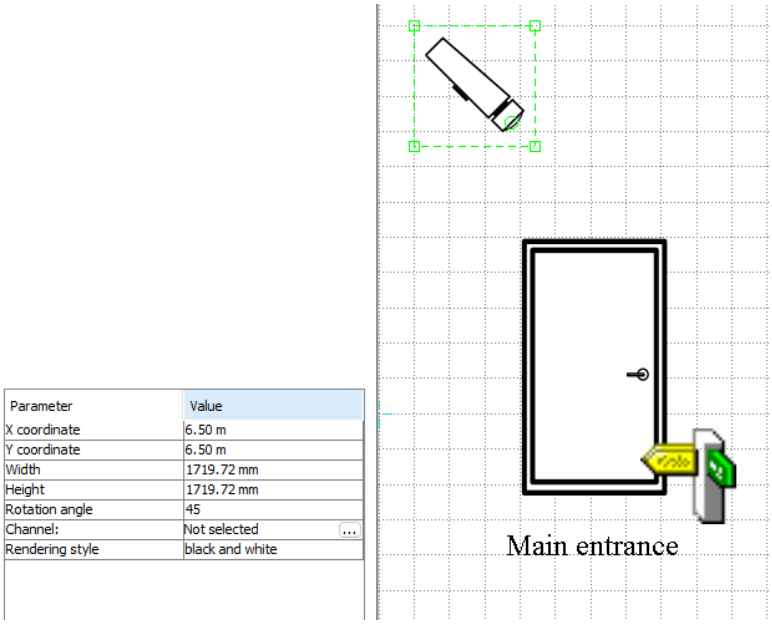
Let's add the previously configured CCTV camera to the floor plan.

To do this, select the Add cameras tool in the top toolbar. Use the cursor to place a camera on the map.

Add cameras tool.

In the window that appears on the left, locate the ... button associated with the Channel parameter and click it. Select the previously configured camera from the drop-down list and click OK.

You can also change the angle of the camera on the floor plan by entering a numeric value in the Rotetion angle text box. Double-click the text box, set the Rotation angle parameter to 45 degrees and press Enter.

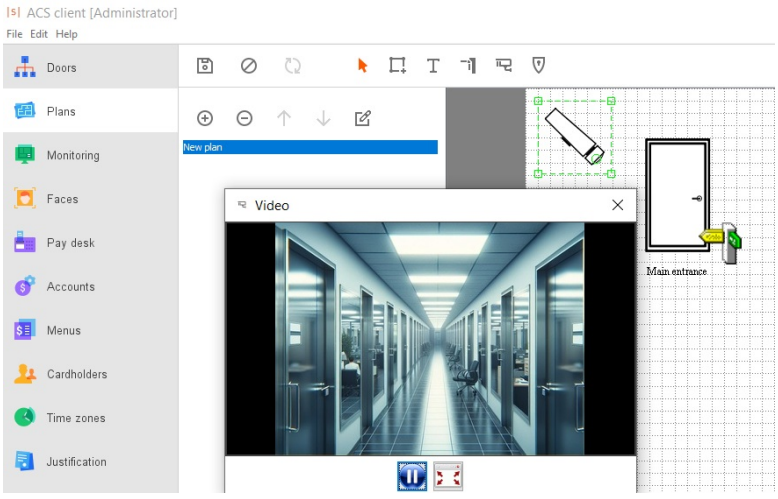


CCTV camera on the floor plan.

To save the changes to the floor plan, click Save changes in the top toolbar.

Save changes tool.

To view live video from the CCTV camera, double-click on its image on the map.

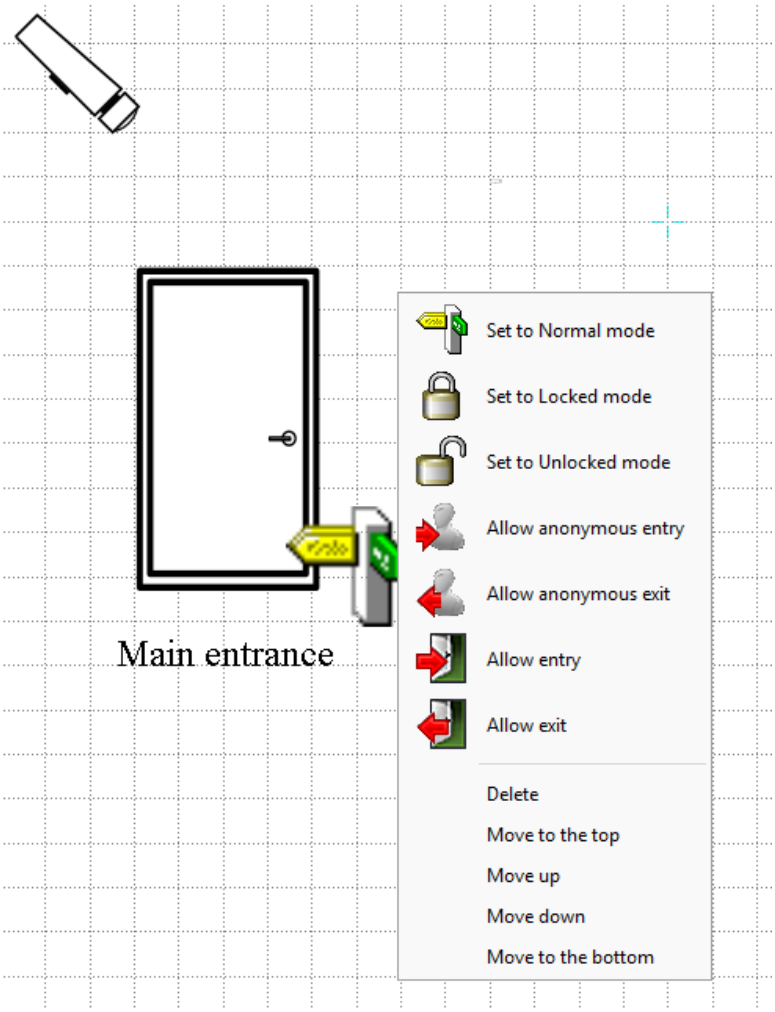


Live video display on the floor plan.

To manage the access point, right-click on its image on the plan. The following options are available in the menu that appears:

- Set to Normal mode. Puts the access point in normal mode. The access point is controlled by the ACS controller.

- Set to Locked mode. Forces the locking mechanism of the access point to close.
- Set to Unlocked mode. Forces the locking mechanism of the access point to open.
- Allow anonymous entry. Unlocks the access point for entry (single pass). The system event is registered as Pass allowed by button.
- Allow anonymous exit. Unlocks the access point for exit (single pass). The system event is registered as Pass allowed by button.
- Allow entry. Unlocks the access point for entry (single pass). You can allow access for a specific cardholder. The system event is registered for that cardholder.
- Allow exit. Unlocks the access point for exit (single pass). You can allow access for a specific cardholder. The system event is registered for that cardholder.

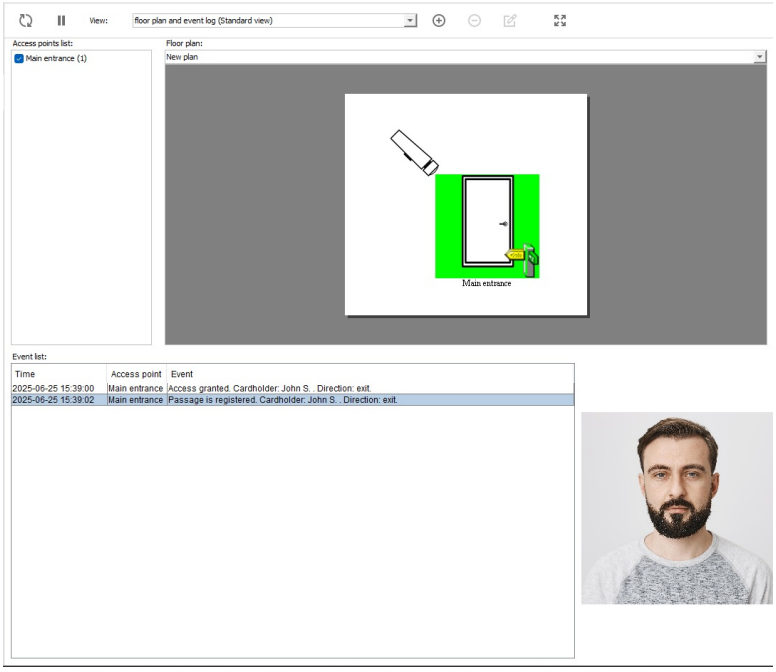


Pop-up menu.

You can also manage elements on the floor plan directly from the Monitoring tab. To do this, go to the Monitoring tab, select the default Floor plan and event log template and select the checkbox in the Access points list block to receive system

events from an access point.

You can now manage the status of the access point, unlock the access point for a single pass and view live video from the surveillance cameras by right-clicking on the elements in the floor plan.



Floor plan on the Monitoring tab.

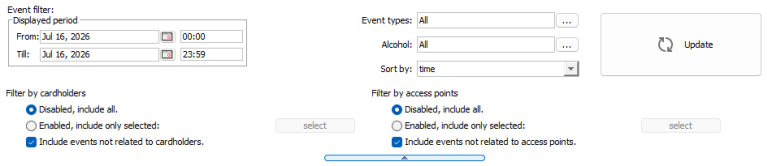
The floor plan we have created is the only one in the system so far, so it is automatically displayed in the Monitoring tab. If you want to manage items on more than one floor plan in the system, you will need to create a separate view template on the Monitoring tab for each floor plan.

20. Events archive

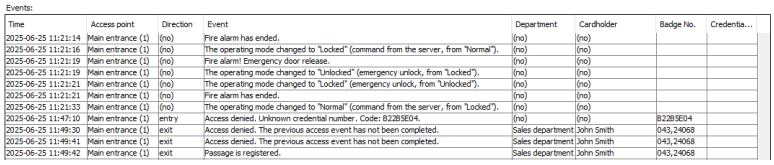
The Archive tab is used to obtain information about events that have occurred in the system during a given period. This tab provides quick access to information as the system does not generate reports to be opened in third party software.

Let's get the list of events that have occurred in the system for the current day:

- By default, the from/till period in the Event filter panel is already set to the current date.
- You can select the cardholders for whom the system events are to be filtered. To do this, click the Enables, include only selected in Filter by cardholders block and the push select. Move the cardholders to the right part of the window using the >> button and click OK.
- Select the Include events not related to cardholders checkbox to obtain additional system events.
- Click Update.



Filter panel.



System events.

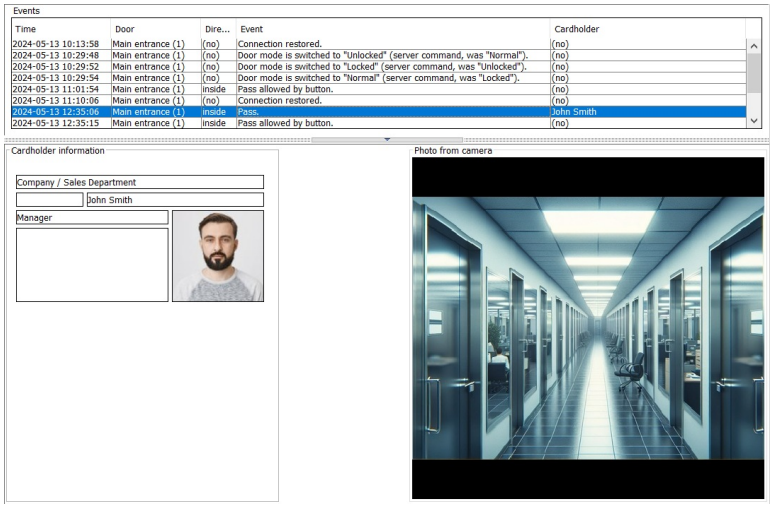
To view the video recorded by a CCTV camera at the time of the event, double-click the event in the list. You can also use the Show the video archive from the entrance/exit camera buttons at the top of the window.

Show the video archive from the entrance/exit camera buttons.

To view snapshots from the camera at the time of the event and to view cardholder information, expand the additional panel by clicking the arrow button at the bottom of the window.

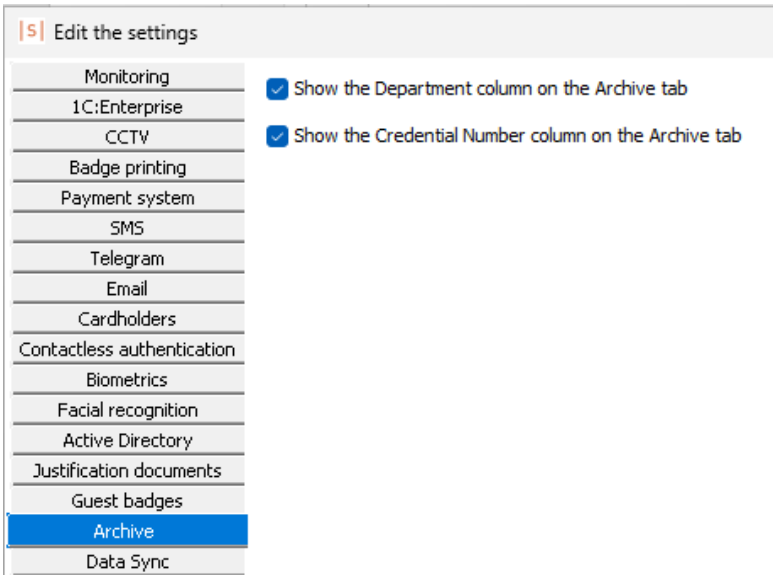
The information in the panel will update as a particular event is highlighted in the list. You can save a photo from an IP camera connected via RTSP by right-clicking on the image in the panel and then selecting the Save to file option from the

context menu (this feature does not apply to integrated video surveillance systems).



Additional panel.

If required, you can view the cardholder's department and access code (and its description, if enabled) in the system events list. To access this feature, go to the File → Settings → Archive menu and select the appropriate checkboxes.



File → Settings → Archive menu.

The list of events can be saved in an MS Excel file. To do this, click the corresponding button at the top of the Archive tab.

Save the selected events to MS Excel button.

21. System reports

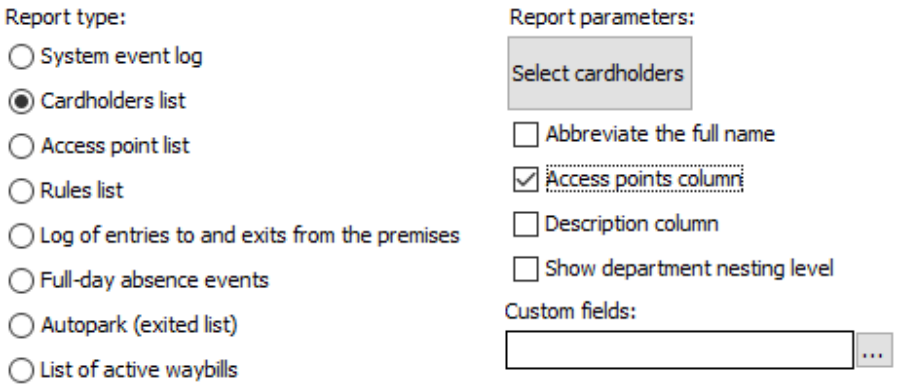
The Reports tab is used to generate reports on cardholders, rules, and events registered by the system throughout its operation. The reports are generated in MS Excel format (.xlsx). The number of reports available depends on the type of license you have purchased.

Let's generate the Cardholders list report:

1. Go to the Reports tab and select the Cardholders list option from the list.

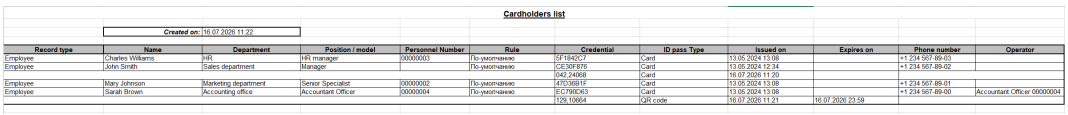
2. Click the Select cardholders button in the Report parameters block. In the window that opens, use the >> button to move the required cardholders or departments from the left column to the right column and click OK.

3. You can select some additional checkboxes to include more information in the report. You can also include values from custom fields that you have already created. To do this, click the ... button in the Extra params block, select the required parameters and click OK.



Report settings.

4. To retrieve the report, click the Generate the report button.



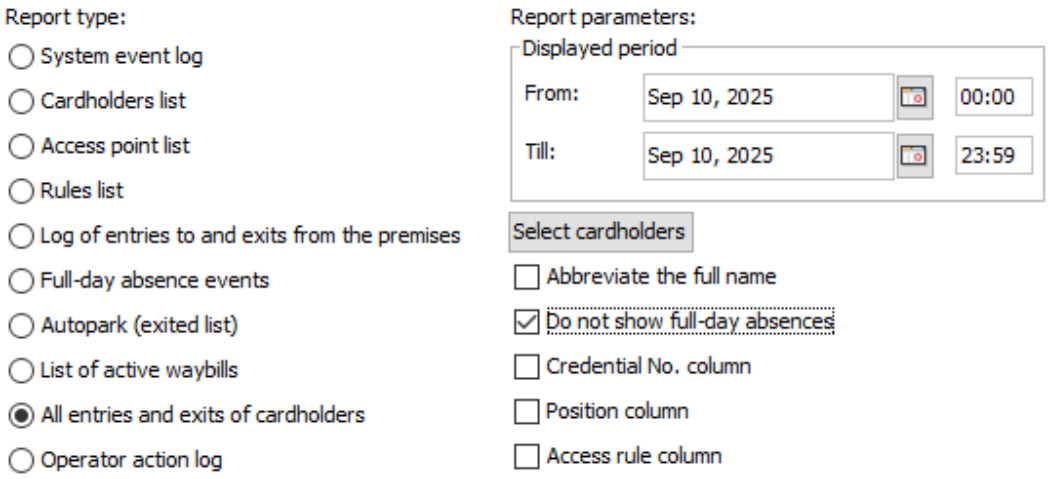
Cardholders list report.

Now let's get the All entries and exits of cardholders report:

1. In the Report parameters block, select the period for which you would like to generate the report.

2. Click the Select cardholders button, select the required number of cardholders, move them to the right column and click OK.

3. You can also select some additional checkboxes to include more information in the report.



Report settings.

4. To retrieve the report, click Generate the report.

All entries and exits of cardholders

Created on:	10.09.2025 15:33:19
Period start date:	10.09.2025 00:00:00
Period end date:	11.09.2025 00:00:00

Date	Department	Name	Personnel Number	Access event		
				time	access point	direction
2025-09-10	Accounting office	Sarah Brown	00000004	15:28	Main entrance (1)	entry
2025-09-10	HR	Charles Williams	00000003	15:27	Main entrance (1)	entry
2025-09-10	Sales department	John Smith	00000001	15:25	Main entrance (1)	entry
				15:26	Main entrance (1)	exit
				15:27	Main entrance (1)	entry

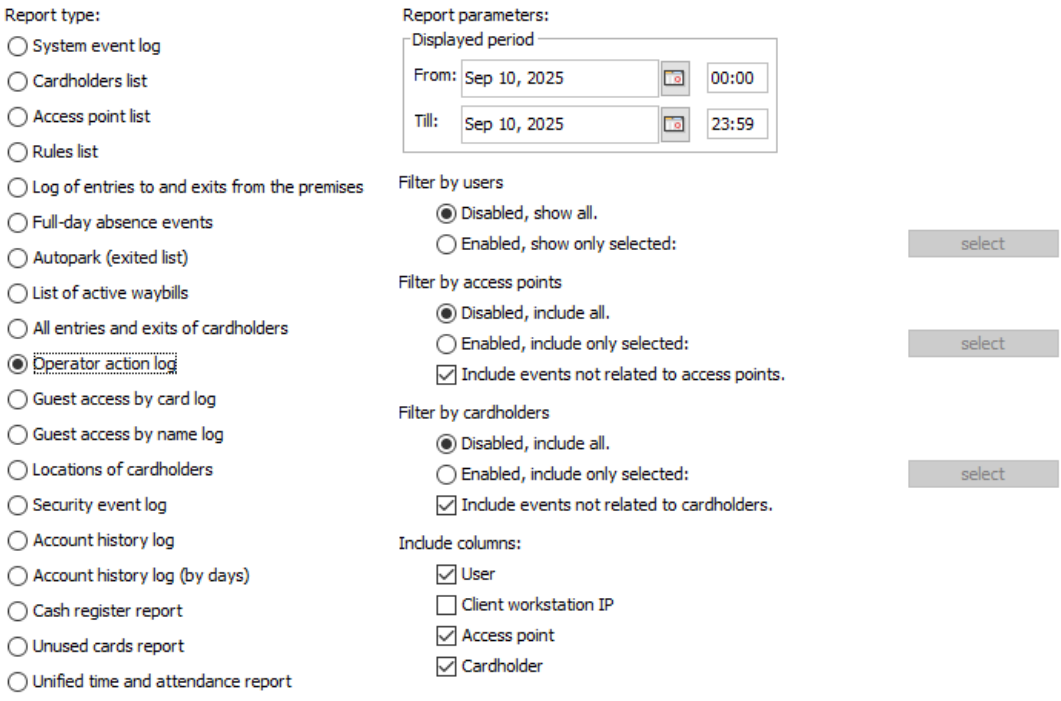
All entries and exits of cardholders report.

You can also generate an Operator action log report to track changes made by system users:

1. In the Report parameters block, select the period you wish to generate the report.

2. You can then filter the report by users, access points and cardholders whose profiles have been modified, or leave the filter off.

3. You can also select additional columns to include in the report.



Report settings.

4. To retrieve the report, click the Generate the report button.

Operator action log

Time	Operator	Access point	Cardholder		Action
			Personnel Number		
2025-09-10 15:02:38	Administrator	(no) (0)	(no)	(no)	The user has connected to the server
2025-09-10 15:04:41	Administrator	(no) (0)	(no)	(no)	The report "Cardholders list" is requested.
2025-09-10 15:12:27	Administrator	Main entrance (1)	(no)	(no)	The access point properties have been changed.
2025-09-10 15:13:07	Administrator	(no) (0)		John Smith	The cardholder has been moved to department "Marketing department".
2025-09-10 15:13:35	Administrator	(no) (0)		John Smith	Credential "042,24068" added. Expires on: unlimited.
2025-09-10 15:13:35	Administrator	(no) (0)		John Smith	The cardholder parameters have been changed.
2025-09-10 15:13:41	Administrator	(no) (0)		John Smith	The cardholder parameters have been changed.
2025-09-10 15:13:47	Administrator	Main entrance (1)	(no)	(no)	The access point operating mode change to "Unlocked" is requested.

Operator action log report.

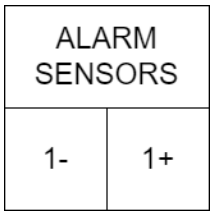
22. Alarm zones

With Sigur ACS, you can create and manage alarm zones and receive events from them.

You can connect alarm loops to Sigur E2 and E4 controllers. A Sigur E2 controller can handle one alarm loop and a Sigur E4 controller can handle two alarm loops. Each loop is treated by the system as a separate alarm zone.

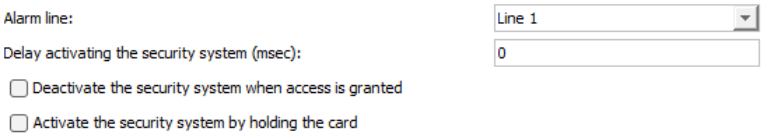
An alarm loop is connected to the ALARM SENSORS terminal block of a Sigur E2/E4 controller. These terminals are supplied with 12 V by the controller to power the alarm sensors. Normally, the connected alarm loop must have a constant resistance of 3.3...6.2 kOhm.

Alarm loop wiring diagrams are provided in the appendix to this manual.



ALARM SENSORS terminal block.

Once the alarm loop is connected to the controller, it must be assigned to an access point. To do this, go to the Access points tab, select the access point of a Sigur E2 or E4 controller and click Settings. In the Alarm line block select Line 1 from the drop-down list and click OK.



Controller's settings.

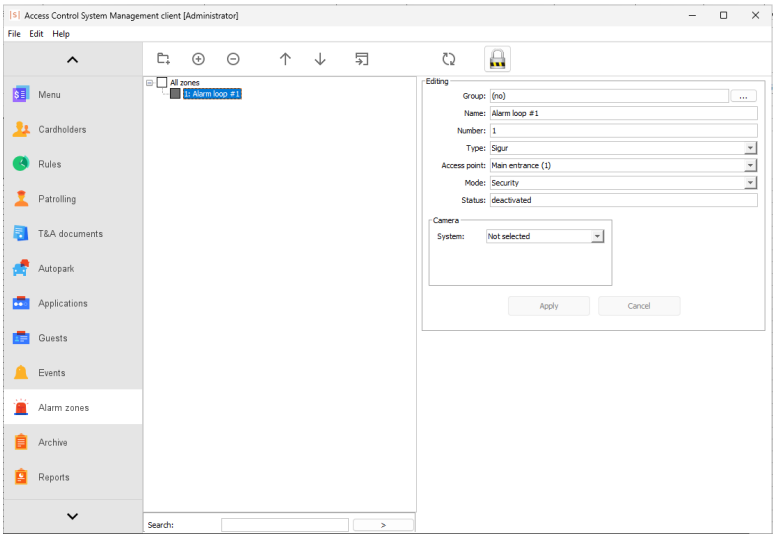
The next step is to configure the alarm loop for subsequent monitoring. Let's go to the Alarm zones tab.

Select All zones option from the list and create a new alarm zone by clicking the + button. The Editing panel will be available in the right part of the application window. Set the Type parameter value to Sigur and select the access point to which the alarm loop is assigned. Click Apply to save the settings.

Then restart the server module or restart the Sigur controller to which the alarm loop is connected.

The Status parameter value will then change to deactivates and the color of the

alarm zone status indicator will change to grey.



Alarm zones tab.

To arm the alarm loop, click the Activate the security system button.

Activate the security system button.

The Status parameter value will change to activated and the color of the alarm zone status indicator will change to green.

In the activated state, if any sensor on the loop is triggered and the resistance value on the ALARM SENSORS terminals deviates from the normal range (3.3...6.2 kOhm), the controller will record an alarm event, the Status parameter value for the alarm zone will change to alarm and the color of the alarm zone status indicator will change to red.

The alarm signal will continue until the user disarms the loop by clicking the Deactivate the security system button.

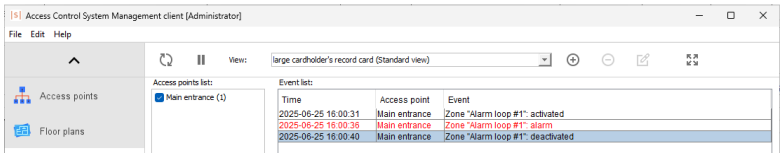
Deactivate the security system button.

Description of alarm zone status indicators.

Indicator colour	Description
Green	The alarm zone is successfully armed.
Orange	An unsuccessful attempt to arm the alarm zone.

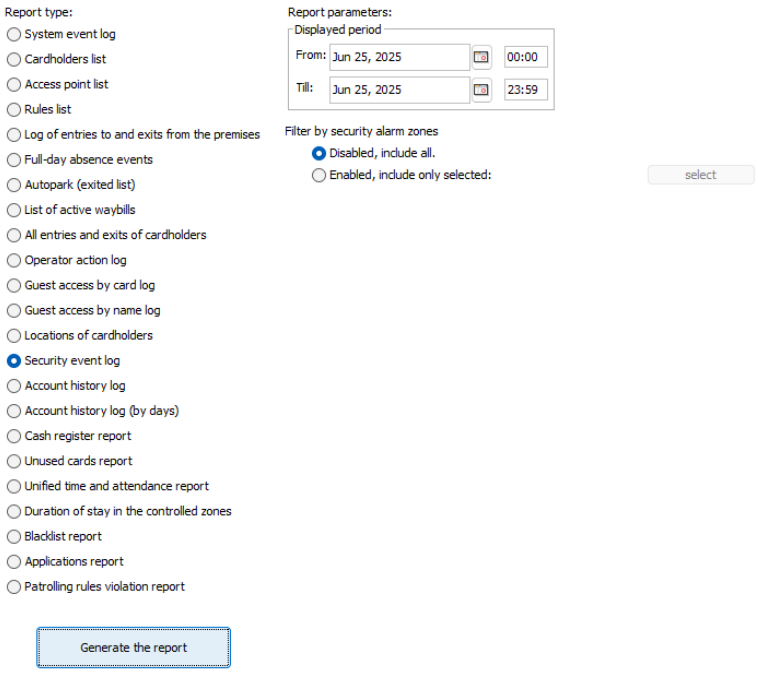
Indicator colour	Description
Red	An alarm event has been registered in the armed alarm zone.
Grey	The alarm zone is successfully disarmed.
White	There is no information on the status of the alarm zone.

Changes to the status of alarm zones are displayed on the Monitoring tab. You need to select the checkbox associated with the required access point in the Access points block beforehand.



Monitoring tab.

Events related to alarm zones are not included in the system events archive. To obtain the list of alarm zone events, go to the Reports tab. Then select the Security event log option from the list, set the covered period in the Report parameters block, select the required alarm zones and click Generate the report.



Report settings.

Date and time	Zone	Event
2025-06-25 15:58:14	Alarm loop #1	activated
2025-06-25 15:59:00	Alarm loop #1	alarm
2025-06-25 15:59:27	Alarm loop #1	deactivated
2025-06-25 16:00:31	Alarm loop #1	activated
2025-06-25 16:00:36	Alarm loop #1	alarm
2025-06-25 16:00:40	Alarm loop #1	deactivated

Security event log report.

You can also manage alarm zones and view their status on floor plans.

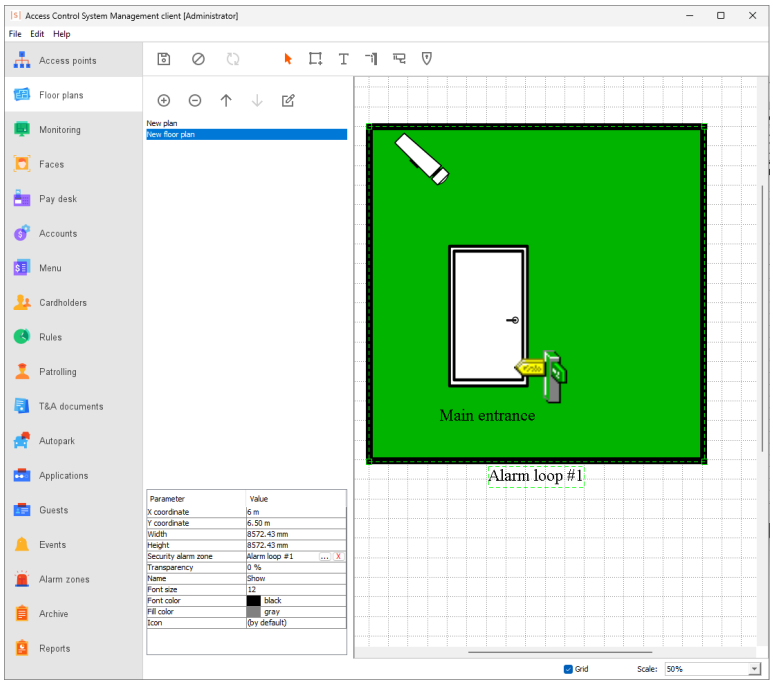
Let's go to the Floors plans tab. Here you can create a new floor plan or add alarm zones to the one you have already created (instructions on how to create floor plans can be found in the corresponding section).

Click Add a security alarm zone on the top toolbar and use the mouse to place an alarm zone on the floor plan.

Add a security alarm zone button.

In the properties window that appears on the left, click the ... button for the Security alarm zone parameter. Select the required alarm zone from the list that opens and click OK. The area created on the floor plan will change its color according to the current status of the alarm zone.

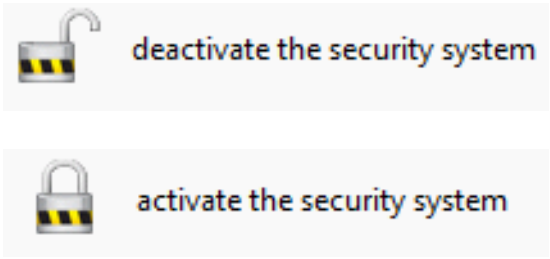
In the example below, the alarm zone has been moved to the background of the floor plan. To do the same, right-click on the alarm zone and select Move to the bottom.



Alarm zone on the floor plan.

To save the changes you have made, click Save changes on the top toolbar.

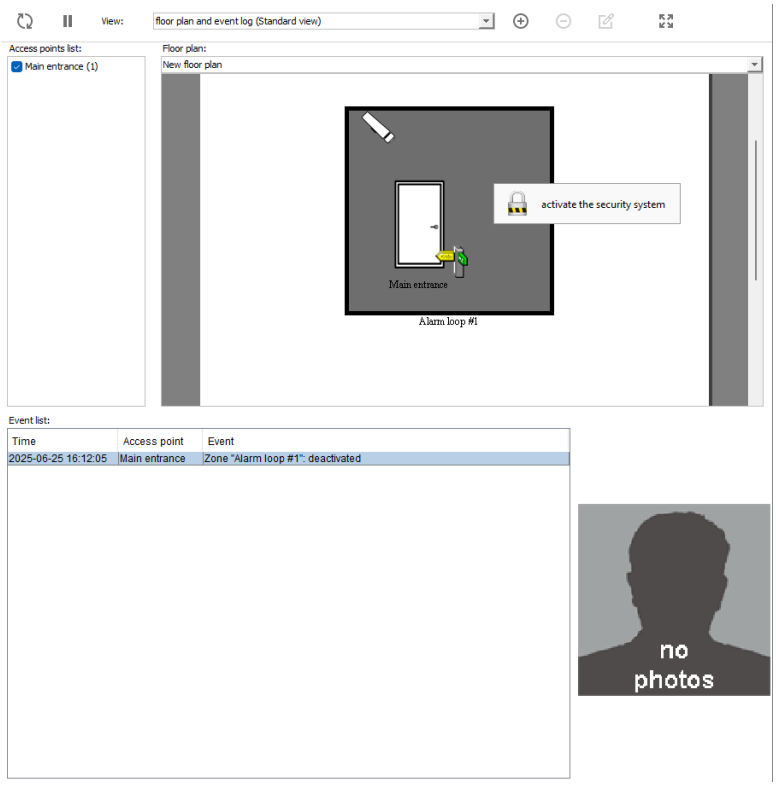
To control the alarm zone state, right-click on its area and select Deactivate the security system or Activate the security system from the pop-up window.



Pop-up window options.

You can view the floor plan and manage alarm zones from the Monitoring tab.

For instructions on how to manage floor plans, please refer to the corresponding section.



Monitoring tab.

23. Event responses

The system provides the opportunity to set up responses to various Sigur ACS events, e.g. set up actions to be performed when access is denied due to card expiration, when a fire alarm is triggered, or set up system actions to be repeated on a schedule.

System responses can include actions such as sending notifications (email, SMS), managing access points (unlock, block), etc.

The Event Response software module is required to configure this functionality.

Event responses are configured within the Events tab. To create a new response, you need to:

1. Click the + button on the top toolbar.
2. Select a system event in the Event block.
3. Configure the system response in the Edit event response block.
4. Click Apply.

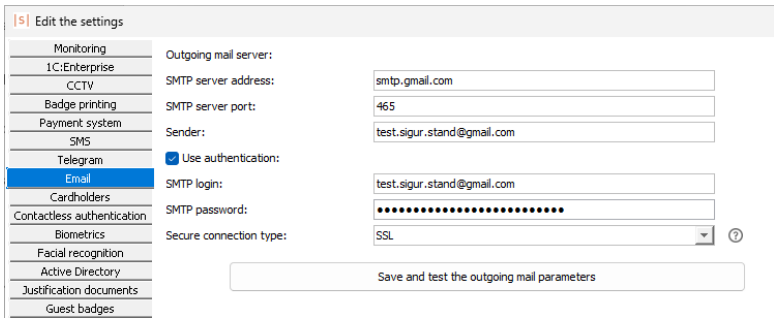
The decision to respond to an event is made by the Sigur server. If an immediate response to an event is required, there must be a connection between the controller and the server at that moment. Check the Access points tab to see if access points are online.

The following are examples of event response configurations for system events. If required, you can configure custom system responses by combining events and actions.

Alert messaging configuration.

Let's configure alerts to notify the system administrator by email or SMS when an access point goes offline. First:

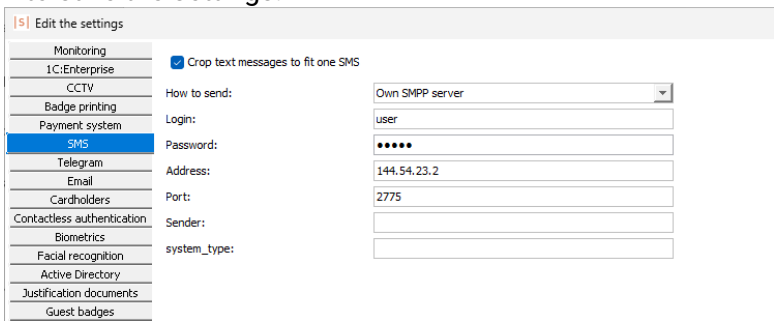
- Email: Configure the system to interact with an external SMTP server used by Sigur ACS to send emails. To do this:
    - Go to the File → Settings → Email menu.
    - Fill in the Outgoing messages block with your SMTP server details.
    - Test the connection by clicking Save parameters and test.
    - Save the settings by clicking OK.



SMTP server settings.

- SMS: Select your preferred method of sending SMS messages, for example using a custom SMPP server. To do this:

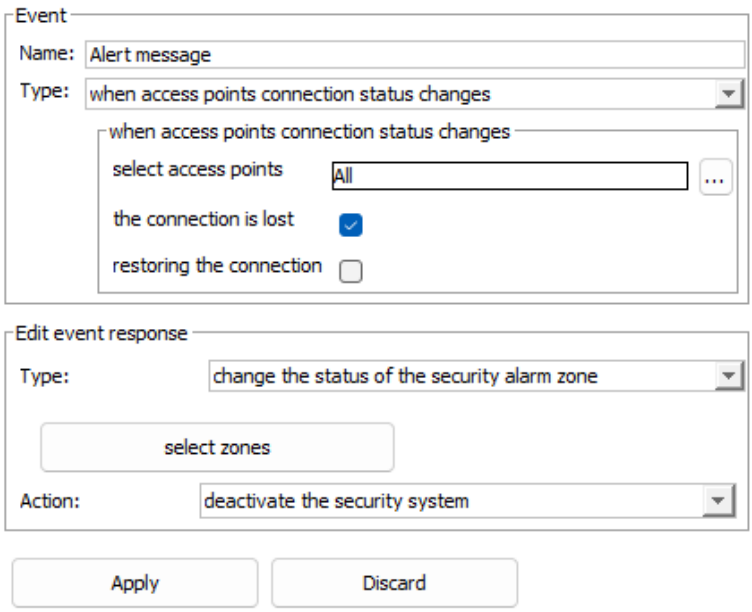
  - Go to the File → Settings → SMS menu.
  - Select Own SMPP server from the How to send drop-down list.
  - Fill in the parameters as recommended by your service provider.
  - Click OK to save the settings.



Own SMPP server settings.

Next, go to the Events tab and click the + button. Enter a name for the event response.

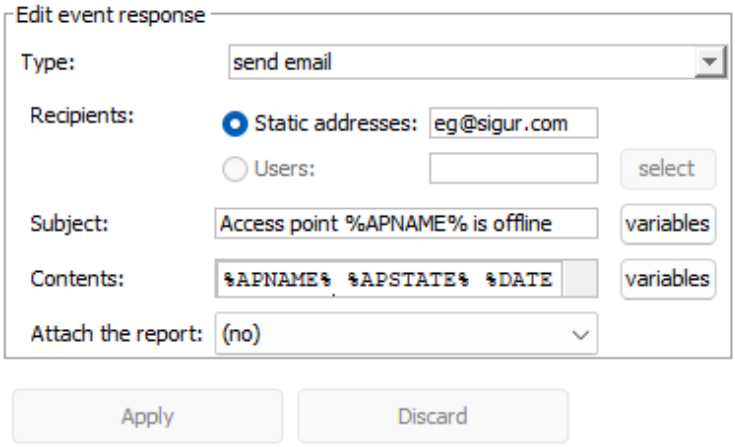
In the Event block, select when access points connection status changes from the Type drop-down list. Then click on the Select access points button, select the required access points and click OK. Select the the connection is lost checkbox.



When access points connection status changes event type.

Next, select the type of system response in the Edit event response block:

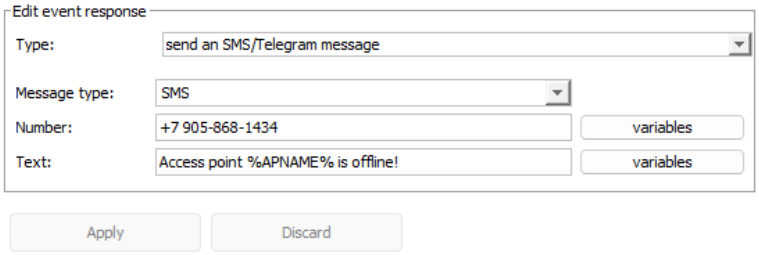
- Send email:
  - In the Static addresses text box, enter the email address of the recipient.
  - In the Subject text box, you can type any text and use some variables. For example, type the text Access point and then click Variables. In the window that opens, double-click on the variable Access point name and then add the text is offline. The Subject text box will now contain the value Access point %APNAME% is offline.
  - Similarly, you can type any text in the Content text box, for example %APNAME% %APSTATE% %DATE% %TIME%.



Send email reaction.

- Send SMS/Telegram message.

- Select SMS from the Message type drop-down list.
- Enter the phone number in the Number text box. The phone number must be in E.164 format, with a + and the country code at the beginning of the number. You can enter multiple numbers separated by commas.
- Then type any message in the text box. To use variable values in the SMS text, click the Variables button and double-click the desired variable in the window that opens.



Send SMS/Telegram message reaction.

Click Apply to accept the changes.

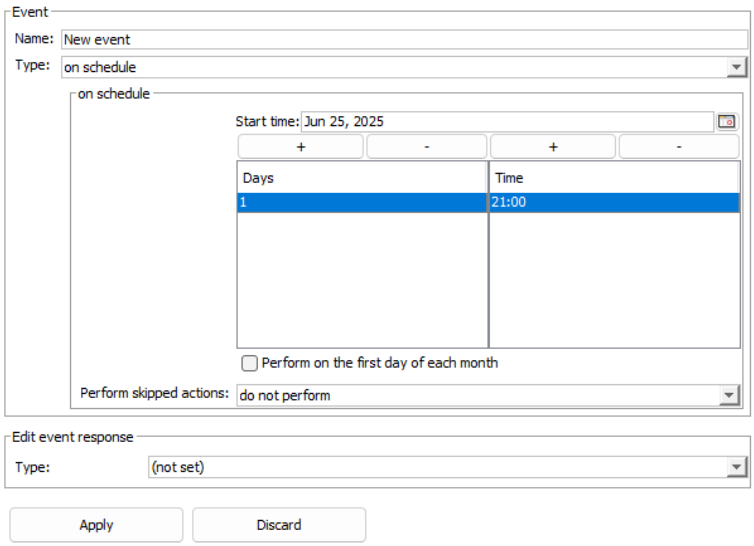
Automatic alarm zone control configuration.

Let's configure the scheduled arming and disarming of alarm zones.

Go to the Events tab and click the + button. Enter a name for the event response.

In the Event block, select On schedule option from the Type drop-down list. Next, set the start date and add a new entry in the Days block by clicking the + button. Then click the + button in the Time block and specify when the action should be performed.

You can also set the rule to perform event responses that were skipped because the controller did not communicate with the Sigur server. For now, select Perform all in the Perform skipped actions block. In this case event responses will be executed when the connection between the controller and the server is re-established.



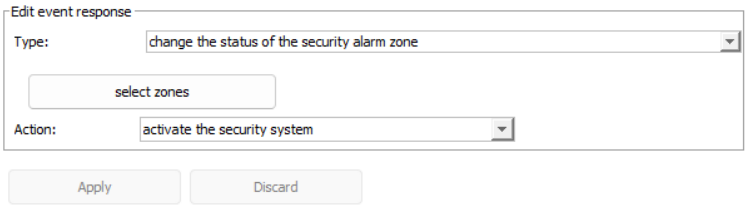
On schedule event type.

The selected event response will be executed repeatedly according to the schedule specified in the Days block. If only one day is added, the action will be executed at the same time each day.

In the Edit event response block, select Change the status of the security alarm zone from the Type drop-down list.

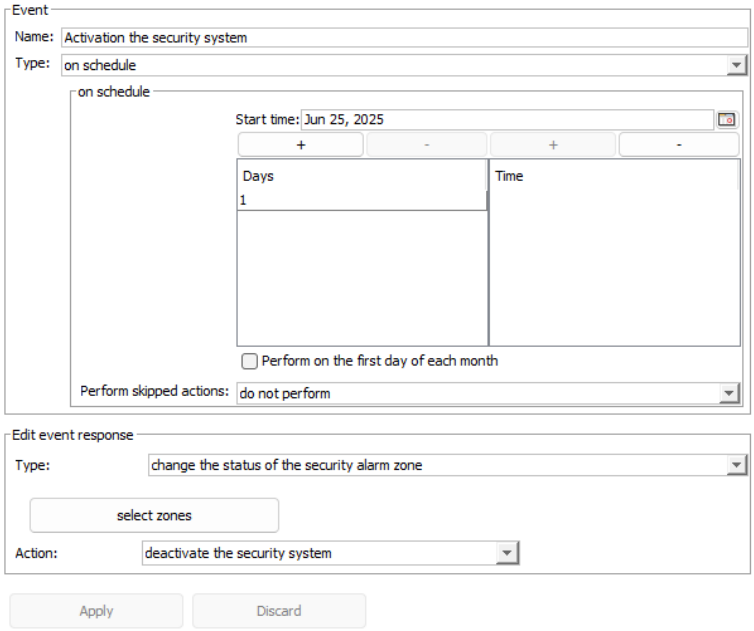
Click Select Zones. In the window that appears, use the >> button to move the required alarm zones to the Selected zones area on the right and click OK. Next, select Activate the security system from the Action drop-down list and click Apply.

The alarm zones will then be armed at the time you have specified.



Change the status of the security alarm zone reaction.

Similarly, create an event response for disarming the alarm zones.



Scheduled disarming of alarm zones.

Click Apply to accept the changes.

24. Synchronizing data from external sources

Sigur ACS can cyclically receive cardholder information from a third party system and transfer access card numbers and system event data to external databases. By synchronizing cardholder data from an external source, manual administration of the Sigur ACS database can be significantly reduced or eliminated.

A Data Sync software module is required to configure such functionality.

The following data sources are currently supported:

- Any database that can be accessed via the standard ODBC interface. This includes all major databases, including Oracle and MS SQL.
- LDAP directory services, including Active Directory.

24.1. External SQL database data synchronization

Let's synchronize data from an external SQL database via an ODBC interface.

You need to install a 32-bit ODBC driver for the selected database on the computer where the Sigur server is deployed.

24.1.1. Synchronizing cardholder data

To configure this functionality, start the Client tool and go to the File → Settings → Data sync menu.

Data synchronization requires a unique identifier for each cardholder in the external database.

To create a new synchronization source, proceed as follows:

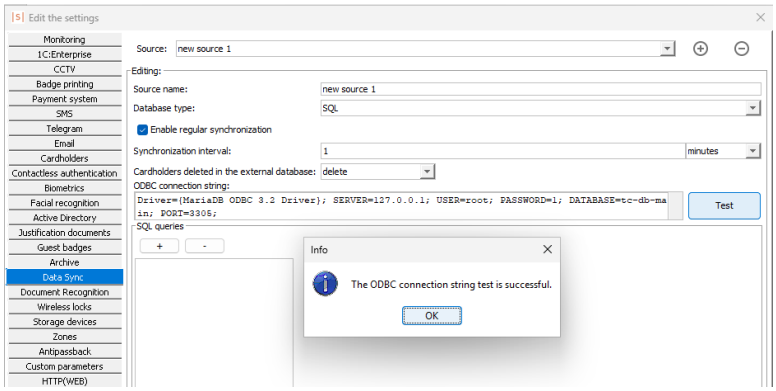
1. Click the + button in the Source block.
2. Enter any source name in the Editing block and select SQL from the Database type drop-down list.
3. Next, select the Enable regular synchronization checkbox and enter the required synchronization interval (the default is 1 minute, but it is recommended that you set a higher value).
4. You can also specify what happens to previously synchronized cardholders when they are deleted in the external system. Cardholders can be deleted in Sigur, or they can be moved to a specific department and their access cards will then expire. By default, the People deleted in external DB parameter is set to Delete.
5. Next, you need to specify the ODBC connection string for the database you are

using. The required ODBC connection string can be found on third party websites (including here).

For example, to connect to MariaDB using the ODBC driver version 3.1, the following connection string can be used:

```
Driver={MariaDB ODBC 3.1 Driver}; SERVER=mydatabase.mydomain.com;
USER=odbc_user; PASSWORD=odbc_pw; DATABASE=odbc_test;
PORT=3306;
```

6. Test the connection to the external database by clicking Test. The system will inform you whether the connection was successful or not.



Connection test.

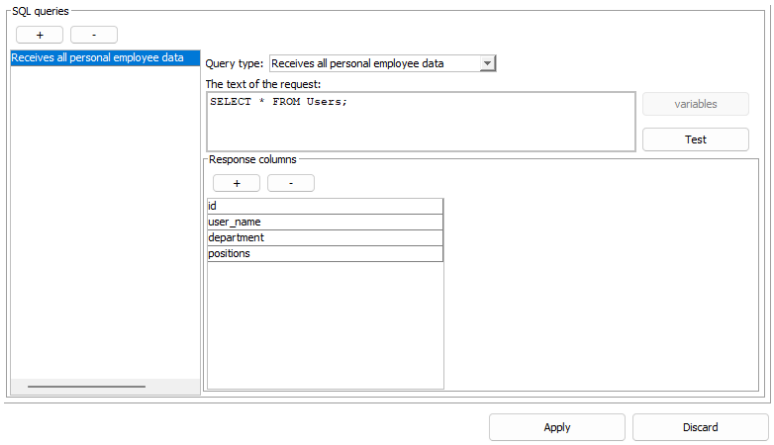
If the connection is successful, create a new query to the external database:

1. Click the + button in the SQL queries block.
2. For the Query type parameter, select Receives all personal employee data from the drop-down list.
3. In the The text of the request box, type the query that refers to the table containing the cardholder data. For example:

```
SELECT * FROM Users;
```

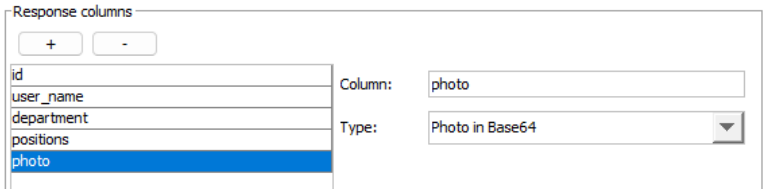
In this example, Users is the name of the table in the external database.

4. In the Response columns block, click the + button.
5. Fill the Column text box with the name of the table column containing the unique identifiers of the cardholders and select ID from the drop-down list for the Type parameter.
6. Similarly, match the table columns containing cardholder name, access code, position, etc. to the parameters in Sigur.



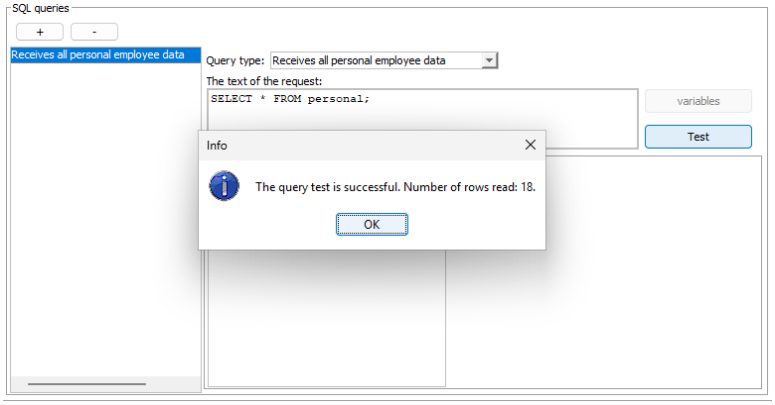
Synchronizing cardholder data.

7. To synchronize cardholder photos, the table in the external database must contain the photo file itself (JPG, PNG, GIF, BMP) in binary code or Base64 representation. Match column name with Sigur's Photo or Photo in base64.



Synchronizing cardholder photos.

8. Click Test to test the query.



Successful query test.

The presence of a Receives all personal employee data type query is mandatory when synchronizing data. It can be the only query you use.

9. Click Apply to save the settings.

To check the received data, go to the Cardholders tab and, if necessary, update the data by clicking Refresh the view.

The data is synchronized according to the periodicity set in the Interval of synchronization text box and after each reboot of the server module.

24.1.2. Exporting events to an external database

You can also transfer access events to an external SQL database. This information can be used in the external system to create reports or analyze the data collected.

First you need to add and configure a synchronization source following the instructions above.

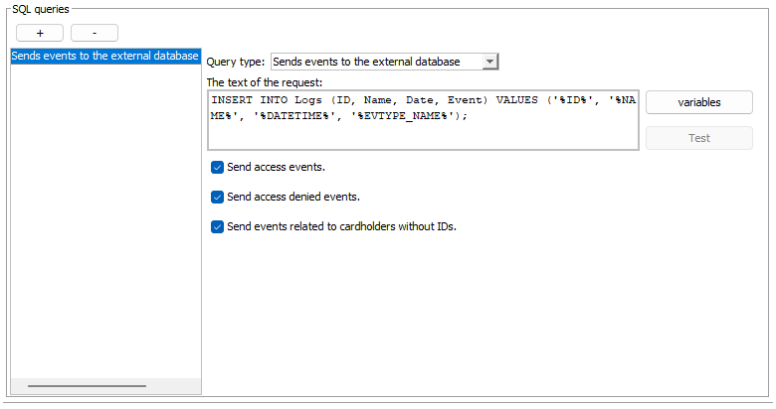
Next, click the + button within the SQL Queries block and select Sends events to the external database from the Query type drop-down list.

In the Text of the request box, type the query that will insert data into the required table in the external DB. For example:

```
INSERT INTO Logs (ID, Name, Date, Event) VALUES ('%ID%', '%NAME%',
'%DATETIME%', '%EVTYPE_NAME%');
```

In this example, Logs is the name of the table in the external database and '%ID%', '%NAME%', '%DATETIME%', '%EVTYPE_NAME%' are the variables added. To add variables to the query, click the variables button and double-click the required item in the list.

You can use the checkboxes under the Text of the request box to specify what information should be sent to the external database. Select the Send events related to cardholders without IDs checkbox to send access events of cardholders that have been created directly in Sigur ACS and have no ID in the external database.



Sends events to the external database query type.

Events will be sent to the external database as soon as they are registered in Sigur ACS. The prerequisite is that the server module is running and that there is a connection between the Sigur server and the controllers.

24.2. Active Directory data synchronization

In this section we will configure data synchronization from Active Directory via LDAP.

24.2.1. Synchronizing cardholder data

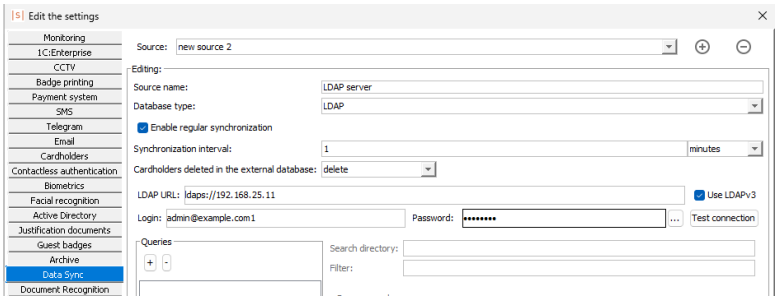
To configure this functionality, start the Client tool and go to the File → Settings → Data sync menu.

Data synchronization requires a unique identifier (e.g. objectGUID) for each cardholder in the external source.

To create a new synchronization source, proceed as follows:

1. Click the + button in the Source block.
2. Enter any source name in the Source name block and select LDAP from the Database type drop-down list.
3. Next, select the Enable regular synchronization checkbox and enter the desired synchronization interval (the default is 1 minute, but it is recommended that you set a higher value).
4. You can also specify what happens to previously synchronized cardholders when they are deleted in the external system. Cardholders can be deleted in Sigur, or they can be moved to a specific department and their access cards will then expire. By default, the Cardholders deleted in the external database parameter is set to Delete.
5. Next, in the LDAP URL field, enter the connection URL to the LDAP server in one of the following formats: *ldaps://ip-address:port* or *ldaps://dns-name.* If no port is specified, the default value is used (389 for*ldap://* and 636 for *ldaps://*).
6. Select the Use LDAPv3 checkbox.
7. Specify the login and password for authorization on the Active Directory server:

    - Depending on the server, the login can be in the form of a URL (*admin@example.com*) or a DN record (*cn=admin,dc=example,dc=com*).
    - To enter a password, click the ... button, enter the password twice in the Password change window that opens and click OK.



LDAP server settings.

Next, configure the Queries block as follows:

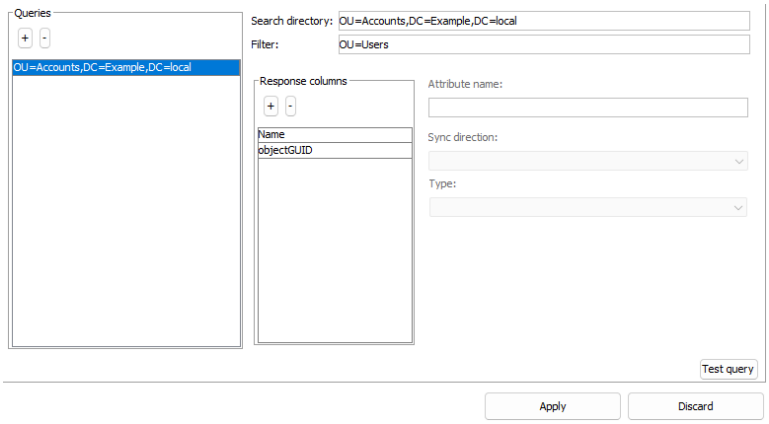
1. Click the + button in the Queries block and select the line that appears in the list below.
2. In the Search directory text box, enter the root directory where the cardholder information is located. The hierarchy and nesting of records from this directory will be transferred to the Cardholders tab of the Client tool during synchronization.
3. Next, fill in the Filter text box. Only records whose attributes match the specified filter criteria will be synchronized to the Sigur database.

   For example, the filter cn=David N will transfer only those records from the specified search directory where the cn attribute has the value David N. You can use the filter *(&(objectCategory=person)(objectClass=user))* to synchronize all cardholders.

4. In the Response columns block, click the + button and select the added row in the list below.
5. Type objectGUID in the Attribute Name field, select Receives personal employee data from the Sync direction drop-down list, and select ID from the Type drop-down list.
6. Similarly, add a cn attribute name with the type of Name.

The presence of attributes of type ID and Name is mandatory for each query that transfers data to the Sigur database.

7. You can also synchronise other attributes. For example, if you need to create a department hierarchy in Sigur that is different from the hierarchy in the main synchronisation directory, add an attribute of type Department. The attribute should contain the full path to the desired cardholder department in Sigur.
8. Click Apply and OK to save the settings.



Query example.

To check the data received, go to the Cardholders tab and, if necessary, update the data by clicking the Refresh the view button.

The data is synchronized according to the periodicity set in the Synchronization interval text box and after each reboot of the server module.

24.2.2. Locking Active Directory domain user accounts

The Active Directory integration allows you to block access to Active Directory accounts based on the cardholder's physical location. If the cardholder is in a zone from which Sigur ACS says they cannot access their Active Directory account, they cannot log in. Once the cardholder returns to the granted zone, they will be able to log in with their account.

This functionality is available only on Windows and requires no additional licensing.

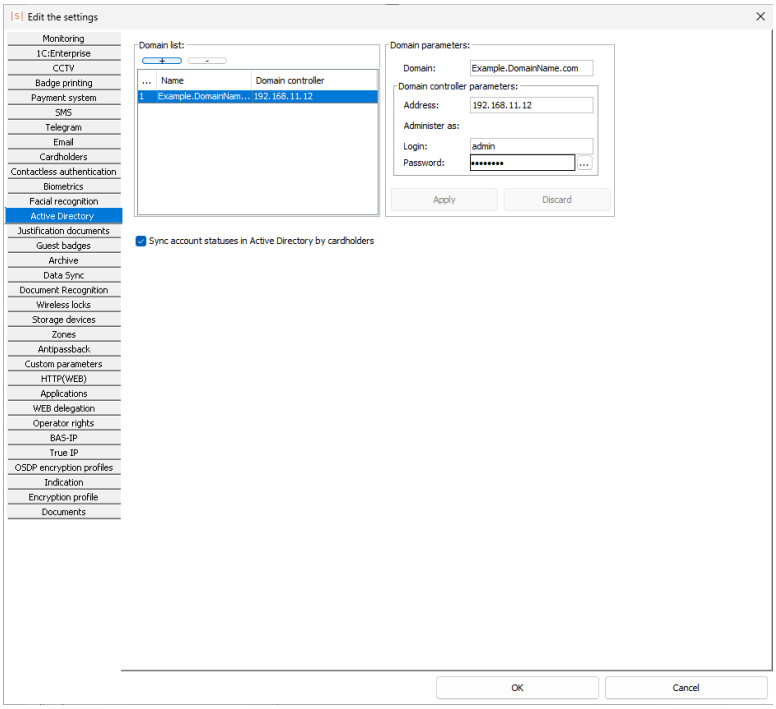
Let's configure the system:

- First, you need to divide the premises into zones.
- Then go to the File → Settings → Active Directory menu.
- Click the + button in the Domain list and enter the Windows domain name in the window that appears.
- Enter the DNS or IP address of the domain controller in the Address field. Optionally, specify the port number to connect to. If the port is not specified, the default port (389) will be used.

Examples for completing the Address field.

Example	Description
192.168.0.99	IP address.
192.168.0.99:390	IP address and port number.
PO_HOST	DNS.

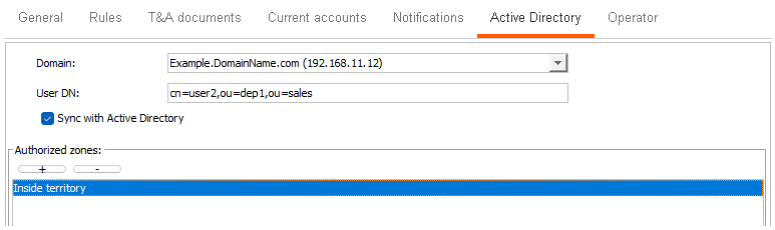
- Next, in the Administer as block, specify the login and password of the account that has the right to edit the data of user accounts on the Active Directory server.
- Select the Sync account statuses in Active Directory by cardholders checkbox.
- Click Apply and OK to save the settings.



Domain settings.

Then go to the Cardholders tab.

Select the required cardholder and expand the Active Directory subtab within their profile settings. Select the domain from the Domain drop-down list. Enter the Distinguished Name (DN) of the cardholder account in the specified domain.



Example of settings.

Next, select the Sync with Active Directory checkbox.

Then click the + button in the Authorized zones and select zones from the list that opens. The cardholder can log in using their domain account when in one of the selected zones.

Click Apply to save the settings.

A DN consists of one or more comma-separated Relative Distinguished Names (RDNs). An RDN consists of attribute=value pairs. They are listed in hierarchical order, starting with the account name.

The attributes can be:

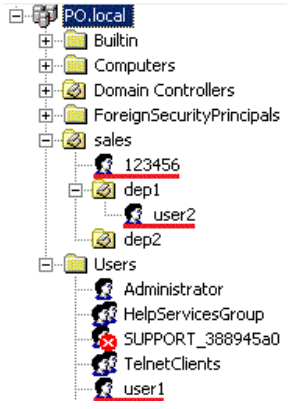
- uid: Account ID.
- cn: Common name.
- sn: Last name.
- l: Location.
- ou: Department.
- o: Organization.
- dc: Domain component.
- st: Region.
- c: Country.

You cannot specify paths to default local accounts or domain admin accounts as DNs. Once such an account is disabled, the ability to work with the domain controller may be permanently blocked.

It is not recommended to set the same account DN for different cardholders as this will cause the system to malfunction.

Below are some examples of DNs for the users shown:

- Account 123456 has DN cn=123456, ou=sales.
- Account user2 has DN cn=user2, ou=dep1, ou=sales.
- Account user1 has DN cn=user1, cn=Users.



Sample Active Directory tree.

25. Restricting access by number of successful access attempts

If your license includes the Paid Access and Payment System software modules, you can provide paid services to cardholders using their access credentials. These modules allow you to create virtual accounts in the system, assign them to cardholders, and debit and credit the accounts with conditional units by system operators or automatically.

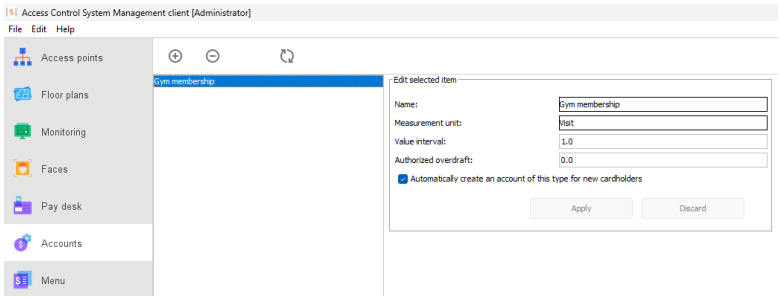
One of the most common uses of these modules is to restrict access to an access point (e.g. when a gym membership is purchased for a certain number of visits to the gym). To configure the system for this logic, you need to:

1. Create a virtual account.
2. Create a menu - a list of items on which a cardholder can spend conditional units.
3. Assign the virtual account to the cardholder and load it with conditional units.
4. Create a new rule with paid access rules and assign it to the cardholder and access points.

Creating a virtual account.

Let's start by creating a new virtual account in the system. To do this, go to the Accounts tab and click the + button on the top toolbar.

Enter any name for the account, for example Gym membership. Next, enter the measurement unit (e.g. Visit). Leave the Value interval, Authorized overdraft and Automatically create an account of this type for new cardholders parameters unchanged for now. Click Apply to save the settings.



Accounts tab.

Creating a menu.

Next, go to the Menu tab and create a new menu by clicking the + button on the top toolbar.

In the Selected menu parameters block, enter the name Single visit. For now, let's leave the values of the Start date, End date, Menu users and Color parameters

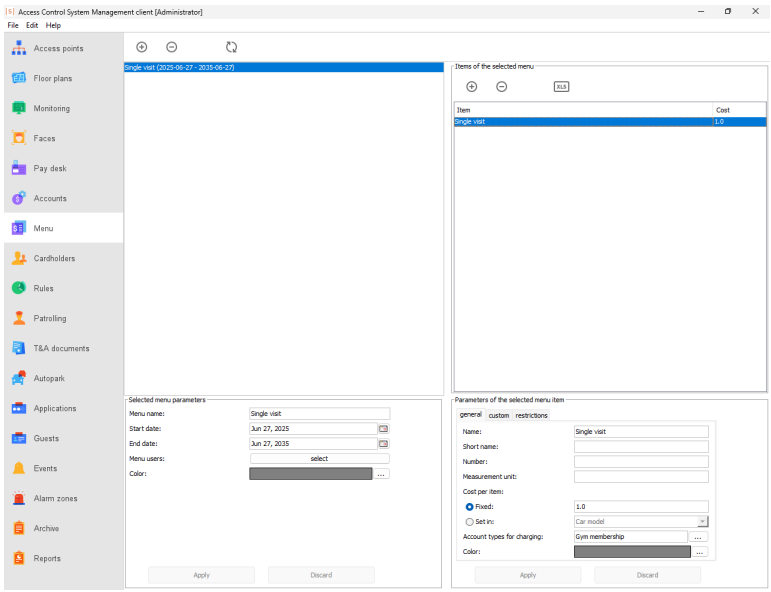
unchanged. Click Apply.

Click the + button in the Items of the selected menu block on the right. The Parameters of the selected menu item block appears below.

On the general tab of the Parameters of the selected menu item block, set the values of the Name parameter to Single visit and the Cost per item parameter to 1.0 (fixed).

You will also see that the Account types for charging parameter is automatically set to Gym membership as this is the only account in the system at the moment. Conditional units for the menu item will automatically be deducted from this virtual account.

Click Apply to save your changes.



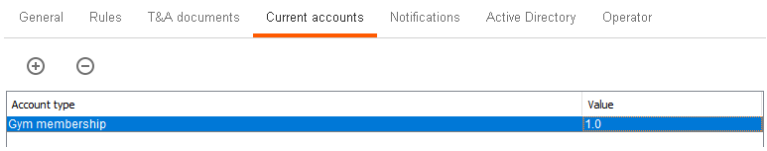
Menu tab.

Managing a virtual account.

Next, go to the Cardholders tab, select the cardholder and open the Current accounts subtab.

Click the + button, select the Gym membership account in the window that opens, and click OK. A new account with a value of 0.0 has been added to the cardholder's profile.

Let's assume that this cardholder has purchased a one-time membership. Double-click on the Value text box, type 1.0, press Enter and click Apply.



Cardholder payment account.

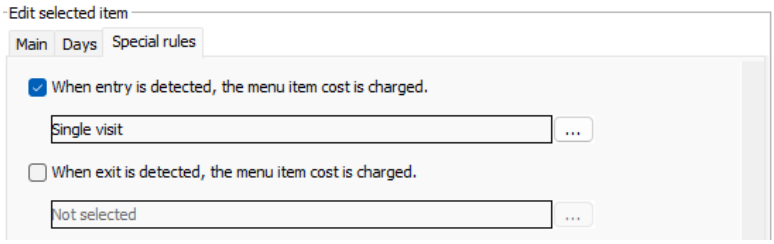
Creating a rule with paid access rules.

Now go to the Rules tab and create a new level 2 rule. The procedure for creating rules is described in the corresponding section.

Make sure that the rule is assigned to the cardholder and the access point. Conditional units will be deducted from the virtual account when passing through that access point. Also on the Days tab, add at least one day with access intervals for entry and exit.

Go to the Special rules subtab of the rule, select the When entry is detected, the menu item cost is charged checkbox and click .... In the window that opens, select the Single visit option in the Menu list and Items of the selected menu blocks and click OK.

Click Apply to save the settings. The system is now configured.

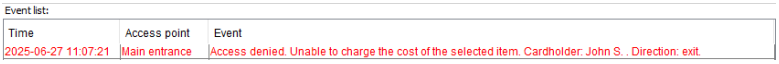


Rule's settings.

Let's go to the Monitoring tab and check the operation of the configured access logic.

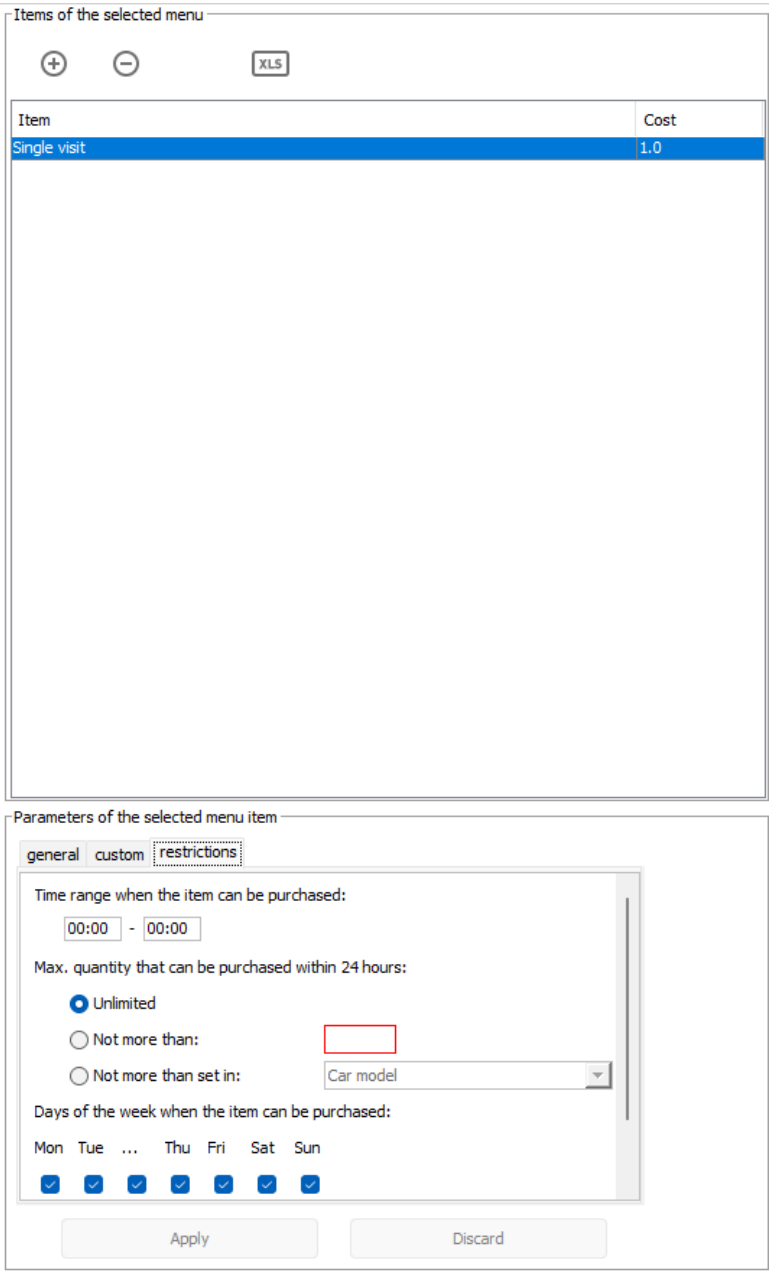
Test the system by presenting the cardholder's card to the wall entry reader. Ensure that the system detects the Passage event after the entry sensor has been triggered. You can return to the Current accounts subtab in the cardholder profile and check that the value of the Gym membership account has decreased by one conditional unit.

If you try to re-enter the access point from the Inside direction, the system will register an Access denied. Unable to charge the cost of the selected item event.



Event list.

You can also limit the time and days you can withdraw conditional units from your account. Use the Menu tab to do this. Select the menu item you created earlier, then edit the restrictions subtab under the Items of the selected menu block.

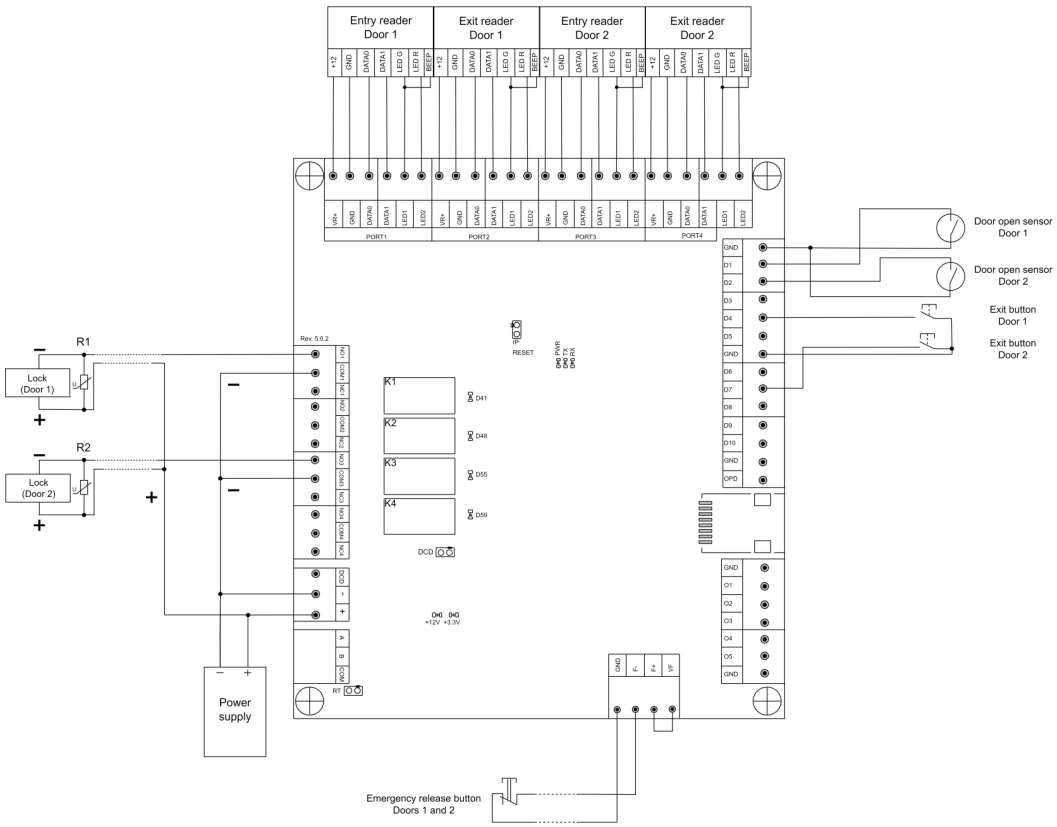


Restrictions subtab.

26. Appendix: equipment wiring diagrams

26.1. Connecting doors

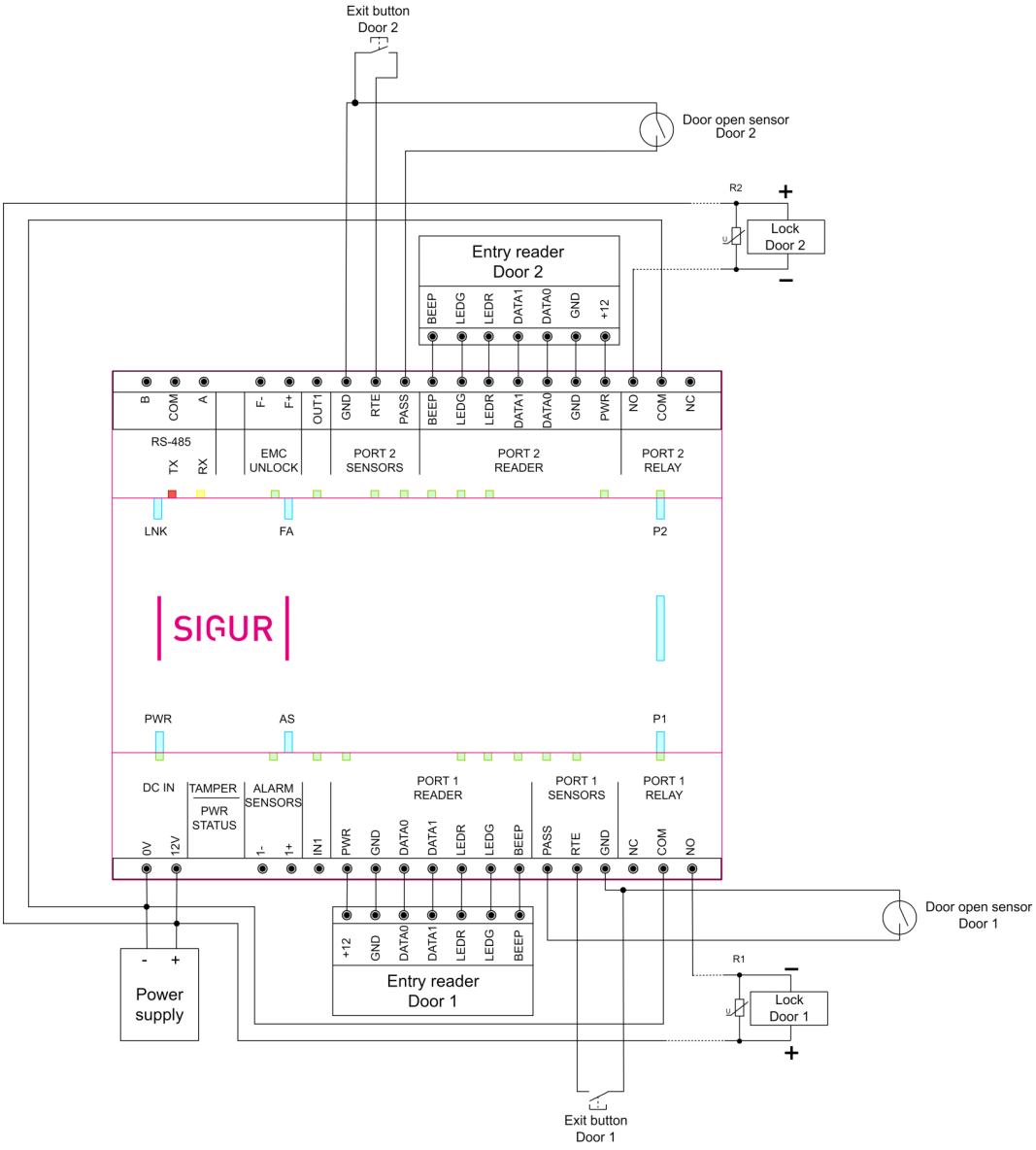
Sigur E510



Connecting two doors with level-controlled locks to Sigur E510.

- R1, R2 - Varistor (B72210S0140K101 or equivalent).

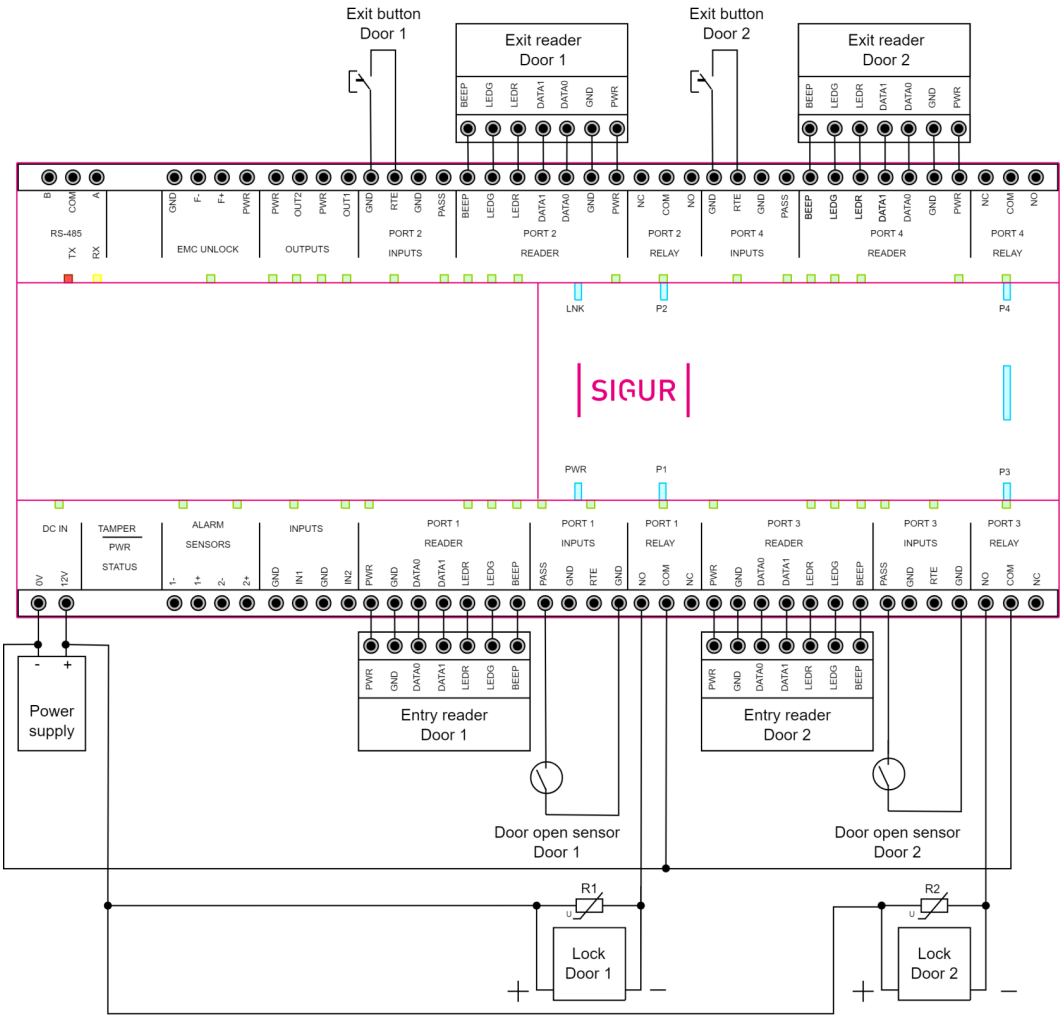
Sigur E2



Connecting two doors with level-controlled locks to Sigur E2.

- R1, R2 - Varistor (B72210S0140K101 or equivalent).

Sigur E4

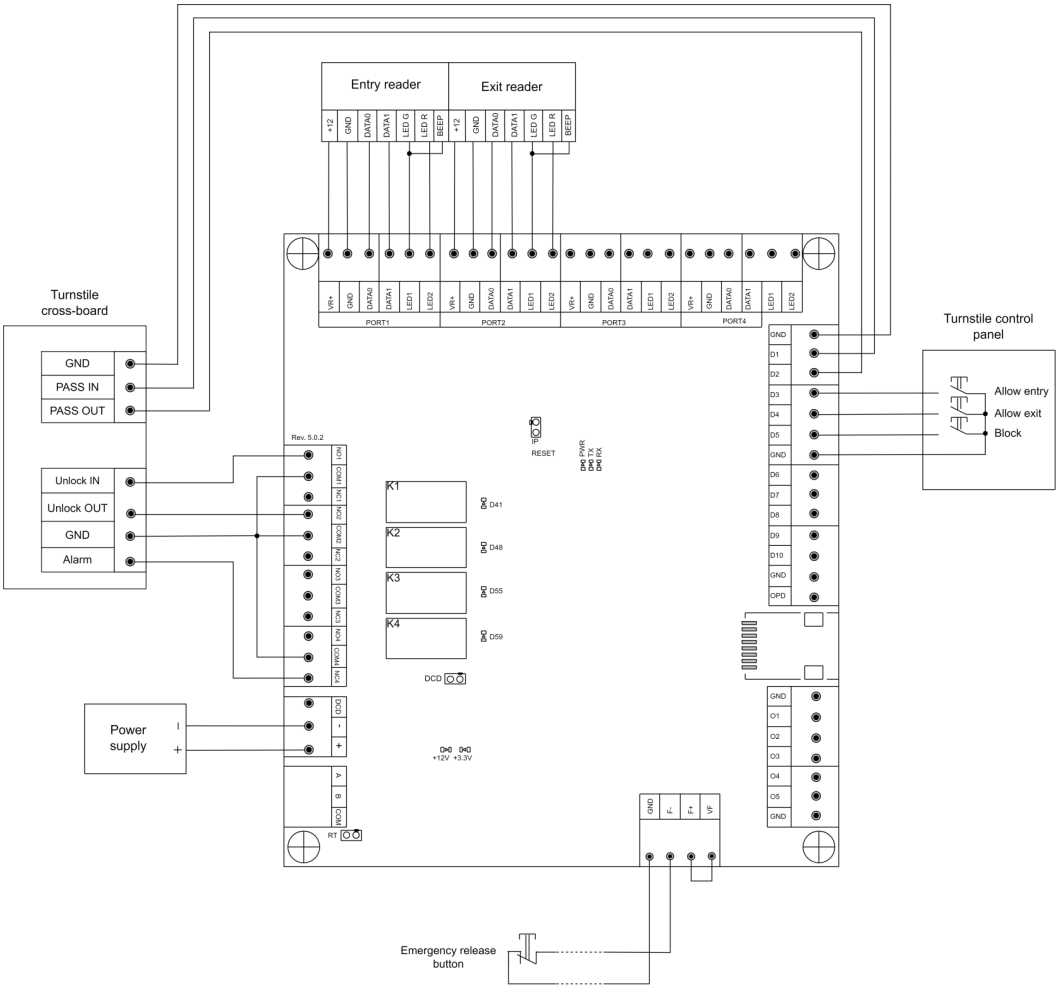


Connecting two doors with level-controlled locks to Sigur E4.

- R1, R2 - Varistor (B72210S0140K101 or equivalent).

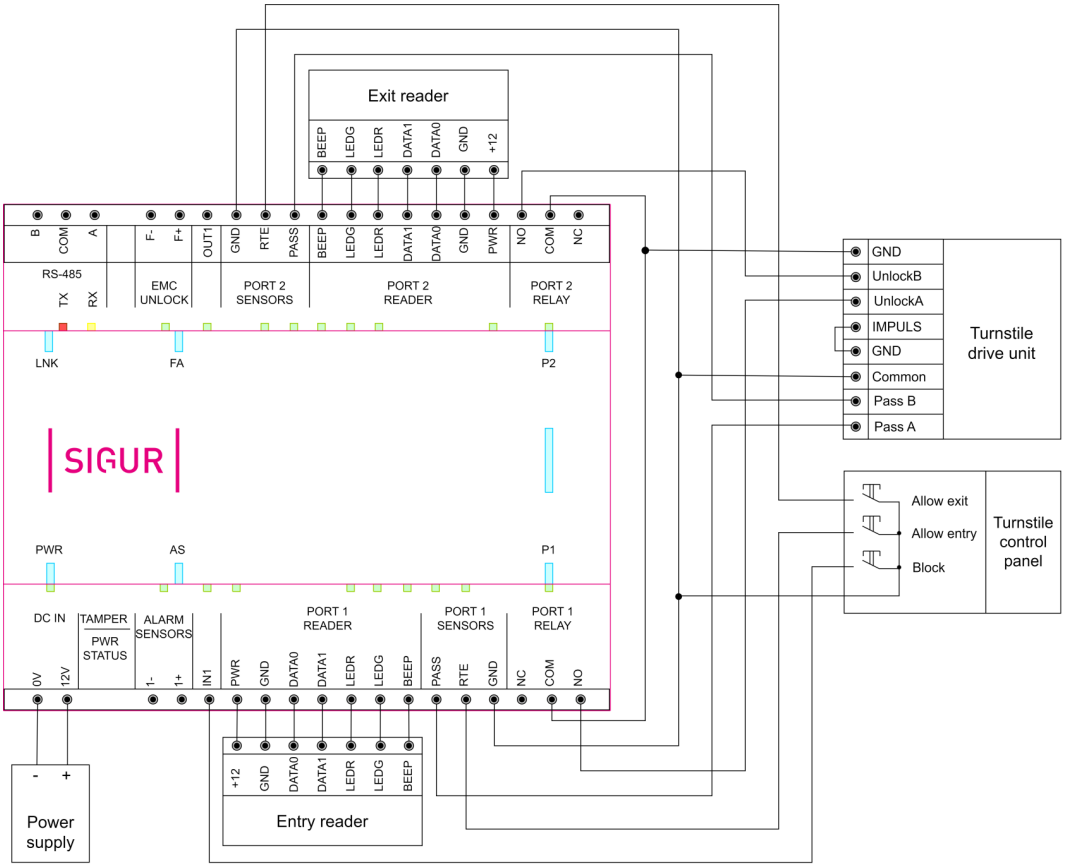
26.2. Connecting turnstiles

Sigur E510



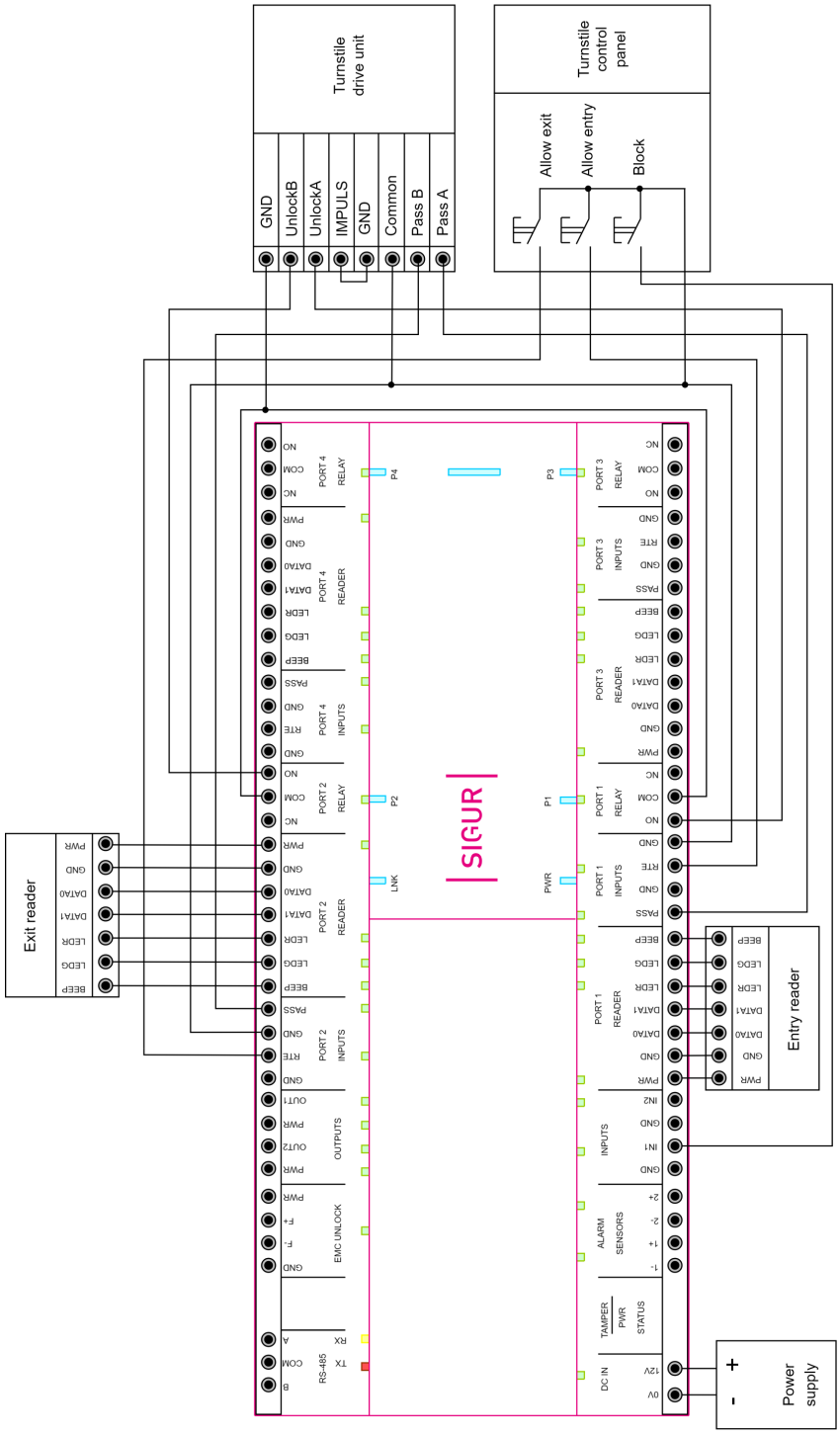
Connecting a level-controlled turnstile to Sigur E510.

Sigur E2



Connecting a level-controlled turnstile to Sigur E2.

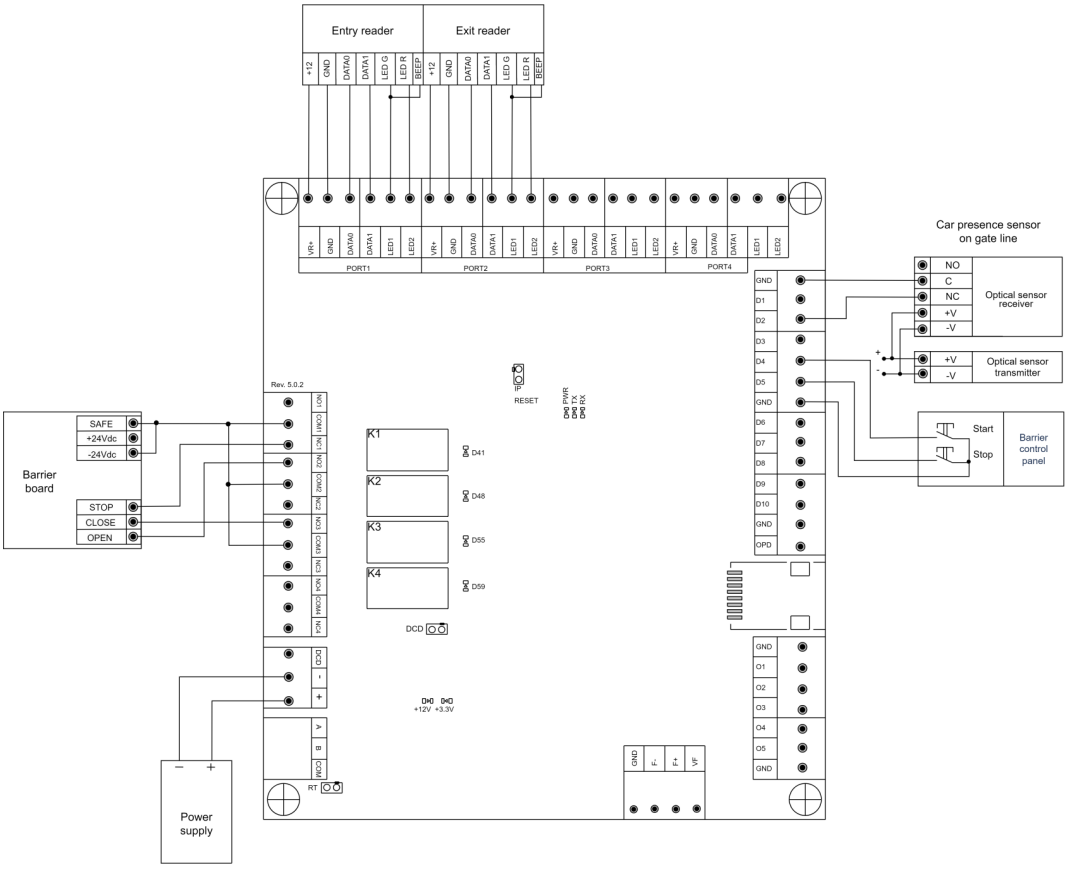
Sigur E4



Connecting a level-controlled turnstile to Sigur E4.

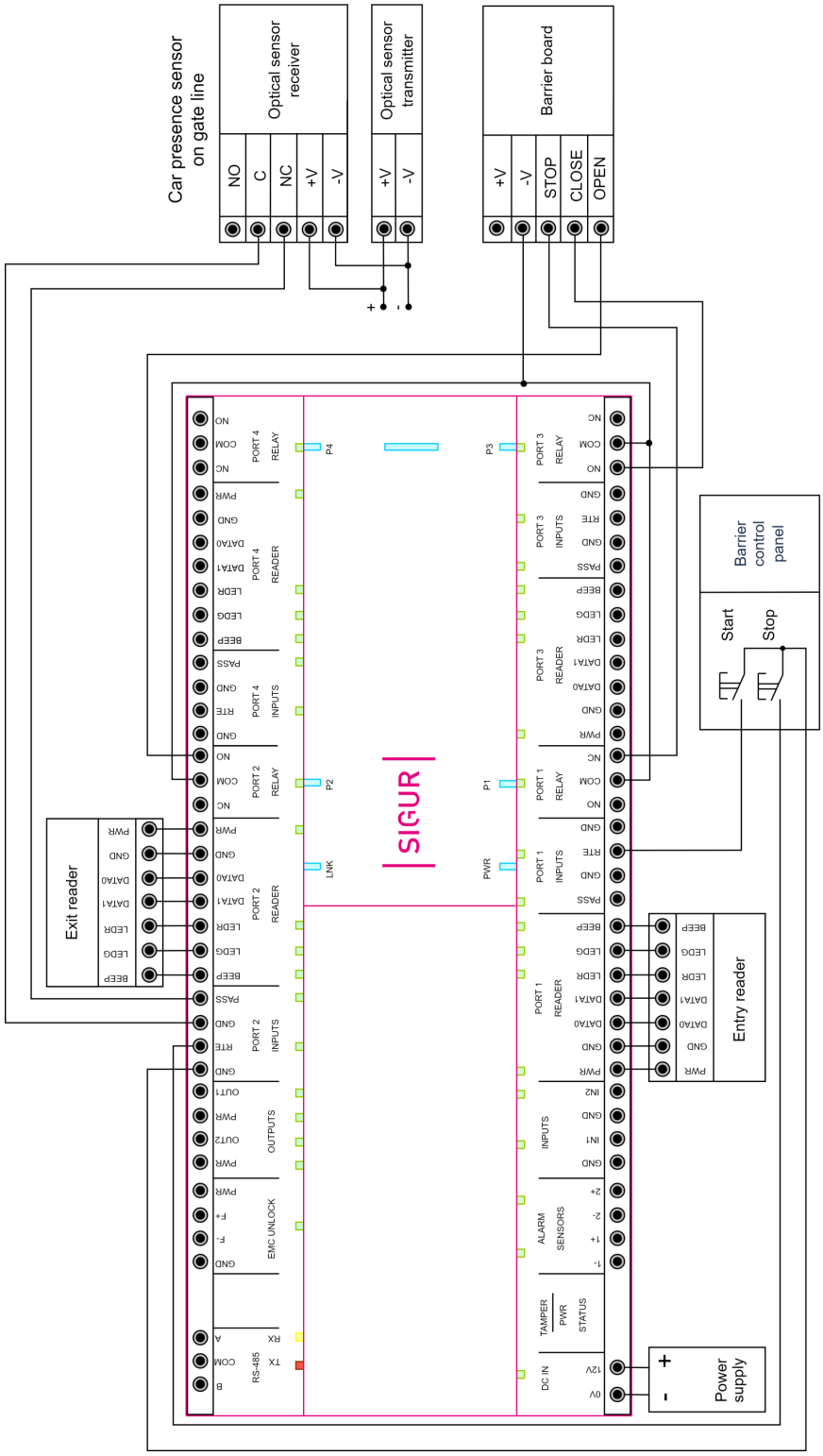
26.3. Connecting barriers/gates

Sigur E510



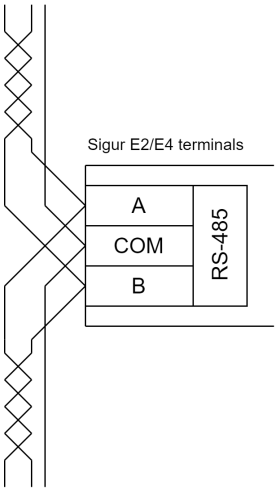
Connecting a barrier to Sigur E510 (open, close, stop logic).

Sigur E4

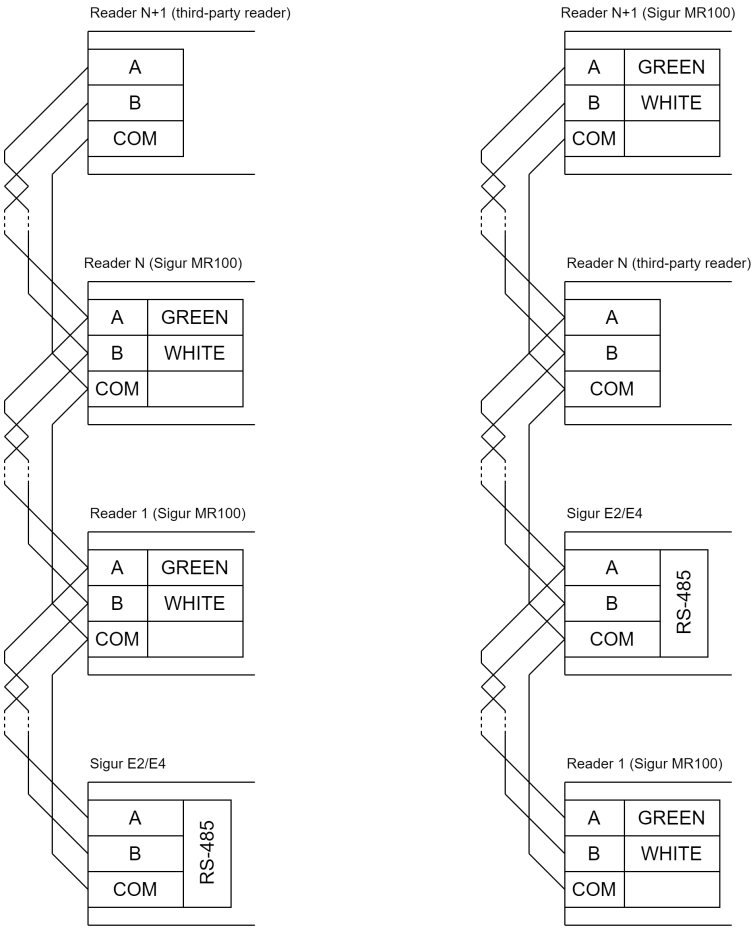


Connecting a barrier to Sigur E4 (open, close, stop logic).

26.4. Connecting OSDP readers



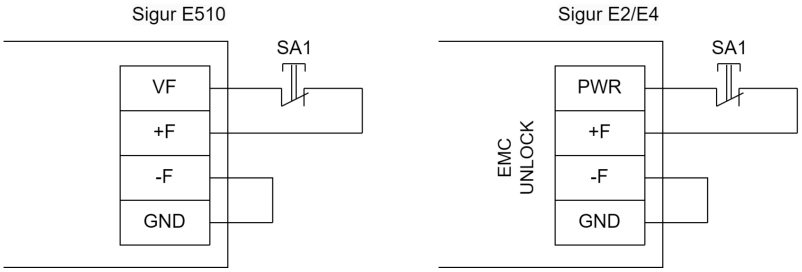
Sigur E2/E4 terminals for connecting OSDP readers.
In this case, the controller is not an end device on the RS-485 loop.



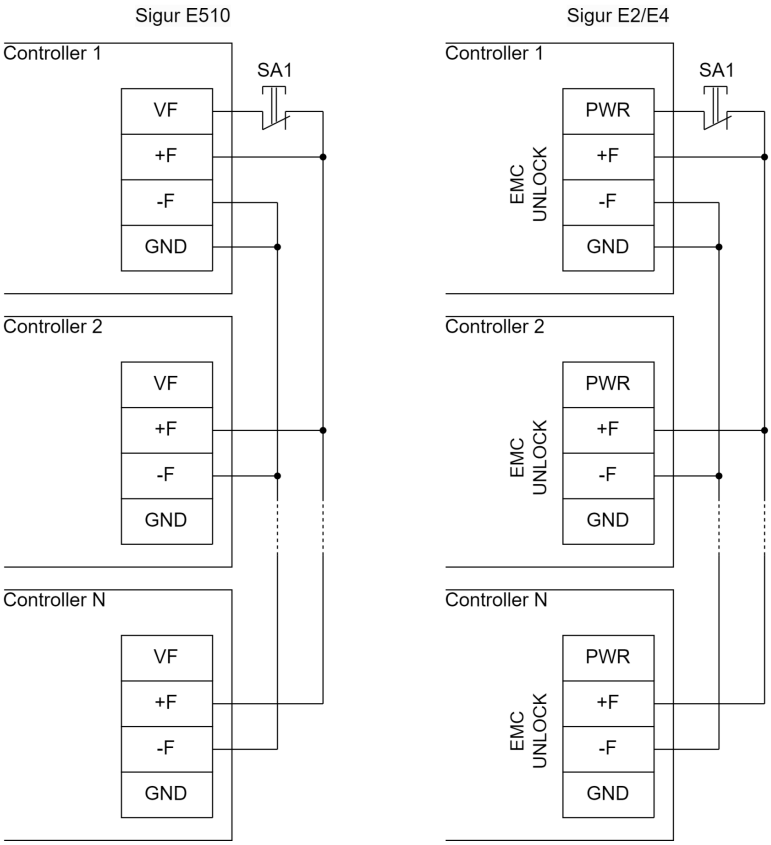
Examples of multiple reader connection via OSDP interface.

26.5. Connecting an emergency release button

The emergency release line is connected to dedicated galvanically isolated hardware inputs of the controller. You can power the line using the controller's VF and GND (PWR and GND) terminals or an alternative power source with an output voltage of 12 to 24 V. During normal operation, the emergency release line should maintain a closed circuit, ensuring a potential difference between terminals F+ and F- in the range of 12 to 24 V.



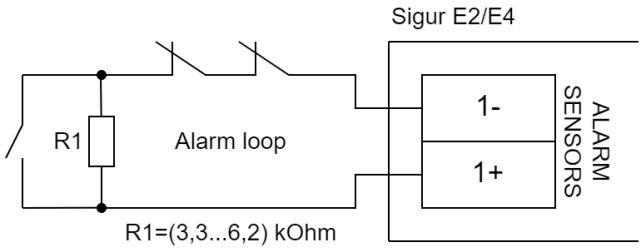
Connecting an emergency release button to a single Sigur E510/E2/E4 controller.



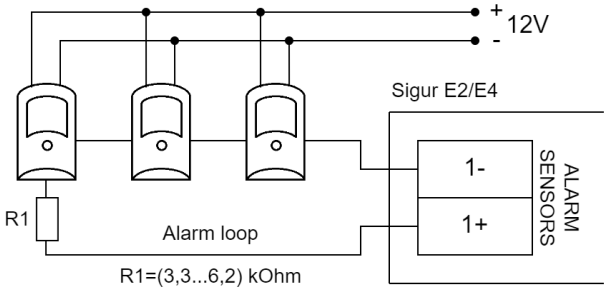
Connecting an emergency release button to multiple Sigur E510/E2/E4 controllers.

- SA1 - Normally closed button.

26.6. Connecting an alarm loop

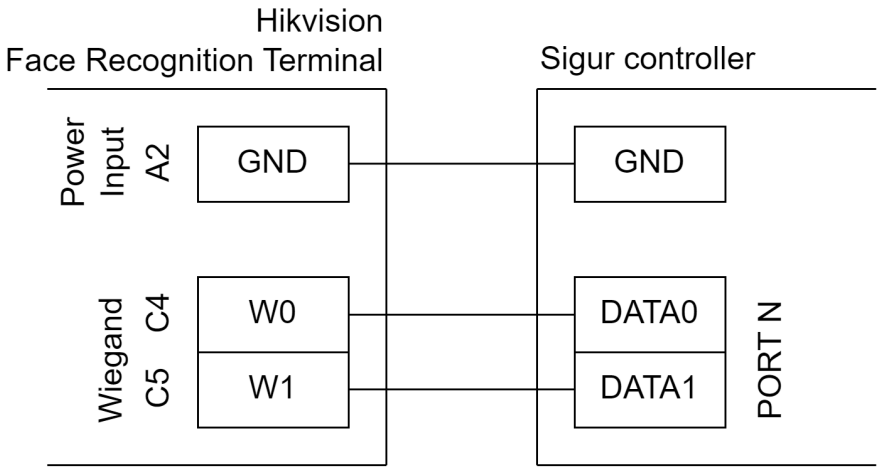


Connecting alarm sensors without external powering.



Connecting alarm sensors that require external powering.

26.7. Connecting a Hikvision face recognition terminal



Connecting a Hikvision face recognition terminal to a Sigur controller.

27. Contacts

For any inquiries or assistance, please contact us using the provided information.

Website: www.sigur.com
General Inquiries: info@sigur.com
Technical Support: support@sigur.com