



Virtual Access Server Integration Module Configuration and Operation Manual

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Table of contents

1	Introduction into Virtual Access Server Integration Module Configuration and Operation Manual	3
1.1	Purpose of the Document.....	3
1.2	General information about Virtual Access Server module.....	3
2	Licensing policy for Virtual Access Server	4
3	Configuring Virtual Access Server integration module	5
3.1	Configuring virtual access point during vehicle license plate recognition	5
3.2	Configuring virtual access point during face recognition.....	6
3.3	Two-factor verification management	8
3.3.1	General information about two-factor verification.....	8
3.3.2	Configuring the two-factor verification	9
3.4	Face temperature monitoring and control.....	13
3.4.1	General information about face temperature monitoring and control	13
3.4.2	Configuring the face temperature monitoring and control	13
4	Working with Virtual Access Server module	16

1 Introduction into Virtual Access Server Integration Module Configuration and Operation Manual

On the page:

- [Purpose of the Document](#)
- [General information about Virtual Access Server module](#)

1.1 Purpose of the Document

Configuration and operation manual for Virtual Access Server integration module is a reference and information guide meant for *ACFA-Intellect*, *Auto-Intellect* and *Face-Intellect* software packages.

The guide provides:

1. general information about *Virtual Access Server* module;
2. information about how to configure *Virtual Access Server* module;
3. information about how to work with *Virtual Access Server* module.

1.2 General information about Virtual Access Server module

Virtual Access Server module is the component of the *ACFA-Intellect* software package. It is designed for combining the work of *Auto-Intellect* and *Face-Intellect* with *ACFA-Intellect* by creating virtual access points (without ACS hardware).

The *Virtual Access Server* module allows you to perform the following:

1. Create the virtual access points (without ACS hardware) on the basis of the face recognition (see [Configuring virtual access point during face recognition](#)) and license plates recognition (see [Configuring virtual access point during vehicle license plate recognition](#)).
2. In ACS, perform the two-factor verification in the Access card + Face mode (see [Two-factor verification management](#)).
3. Monitor the temperature of a face recognized using *Face-Intellect* and a thermal camera (see [Face temperature monitoring and control](#)).
4. Perform different actions in the system using scripts or macros for various events (for example, open or close a barrier, block an access point, etc.) (see [Intellect software package. Programming Guide](#)).

The documentation on *Auto-Intellect*, *Face-Intellect* and *Intellect* basic access software packages is located [here](#).

2 Licensing policy for Virtual Access Server

The module is not licensed (i.e. free to use).

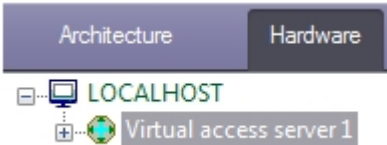
3 Configuring Virtual Access Server integration module

3.1 Configuring virtual access point during vehicle license plate recognition

Organizing of virtual access point during vehicle license plate recognition allows fixing the access (ACCESS_IN event) while recognition the license plate which is stored in the database (in user settings specified in the *Access Manager* module).

To configure the virtual access point during vehicle license plate recognition, do the following:

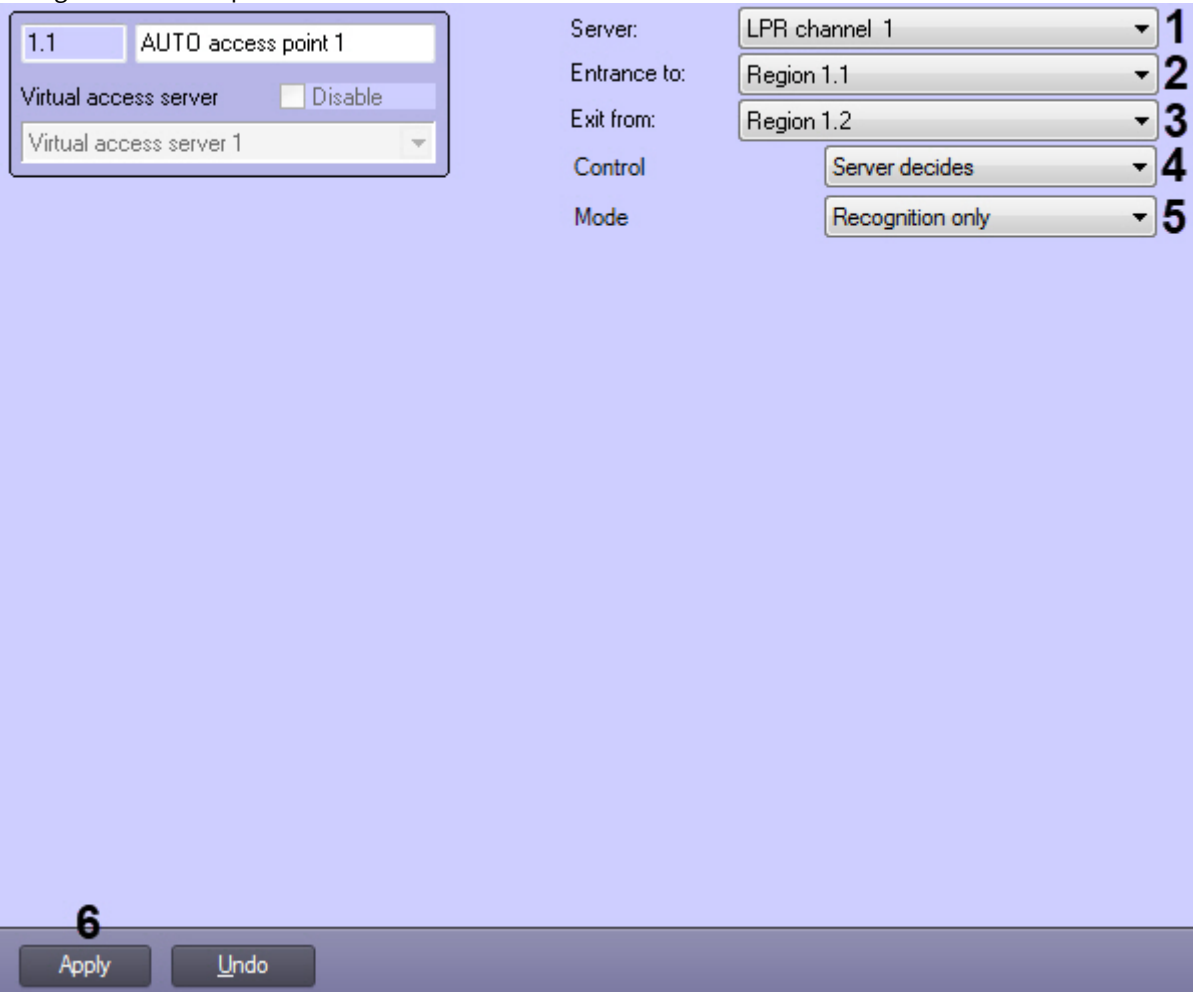
1. Create the **Virtual access server** object on the basis of the **Computer** object in the **Hardware** tab of the **System settings** dialog window.



2. Create the **AUTO access point** object on the basis of the **Virtual access server** object.



3. Configure the access point:



4. Select the LPR channel on the basis of which the access point is to be organized (**1**).

5. From the **Entrance to** drop-down list select the **Region** object corresponding to the area in which access is performed (2).
6. From the **Exit from** drop-down list select the **Region** object corresponding to the area from which the exit is performed (3).
7. From the **Control** drop-down list (4) select the access granting mode:
 - **Server decides** - the server makes the decision for access granting or refusal (this includes the use of a script).
 - **Operator decides** - the operator makes the decision for access granting or refusal using the *Event Manager* module (see [Working with the Event manager module](#)). If this mode is selected, the following settings become available:

Control	Operator decides
Timeout	10

- **Timeout** - sets the time interval in seconds to wait for access confirmation by the operator. All the other requests from the Face recognition server will be ignored within the specified timeout.
8. If the **Server decides** access granting mode was selected, then from the **Mode** drop-down list (5) select the access rights checking mode:
 - **Recognition only** - the server makes the access granting decision based only on license plate recognition.
 - **Rights checking** - the server makes the access granting decision after successful license plate recognition and successful verification of the access rights of the user who owns the vehicle (access level, time zones, blocking, antipassback). If this mode is selected, the following settings become available:

Mode	Rights checking
Check date of begin	Do not check
Check expiration	Do not check
Check blocking	<input type="checkbox"/>
Check AntiPassBack	<input type="checkbox"/>

- **Check date of begin** and **Check expiration** - sets the mode of checking the access card validity:
 - **Do not check** - do not check the start or expiration date of the card.
 - **Do not include** - do not include the start or expiration date of the card in the check.
 - **Include** - include the start or expiration date of the card in the check.
 - **Check blocking** - set the checkbox to check if the user is blocked.
 - **Check AntiPassBack** - set the checkbox to control double pass.
9. Click **Apply** (6) to save the changes.

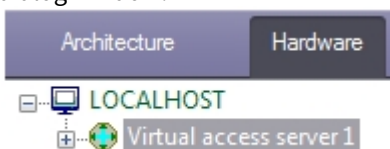
Organizing of virtual access point during vehicle license plate recognition is performed.

3.2 Configuring virtual access point during face recognition

Organizing of virtual access point while face recognition allows fixing the access (ACCESS_IN event) while recognition a face which is stored in the database (see the *Face-Intellect software package. Administrator's Guide* in [AxxonSoft documentation repository](#)).

To organize the virtual access point while face recognition, do the following:

1. Create the **Virtual access server** object on the basis of the **Computer** object in the **Hardware** tab of the **System settings** dialog window.



2. Create the **FACE access point** object on the basis of the **Virtual access server** object.



3. Configure the FACE access point:

4. Select camera which performs the face recognition. Camera must work with the face recognition server (1).
5. Select the face recognition server on the basis of which the access point is to be organized (2).
6. From the **Entrance to** drop-down list select the **Region** object corresponding to the area in which access is performed (3).
7. From the **Exit from** drop-down list select the **Region** object corresponding to the area from which the exit is performed (4).
8. From the **Control** drop-down list (5) select the access granting mode:

- **Server decides** - the server makes the decision for access granting or refusal (this includes the use of a script).
- **Operator decides** - the operator makes the decision for access granting or refusal using the *Event Manager* module (see [Working with the Event manager module](#)). If this mode is selected, the following settings become available:

- **Timeout** - sets the time interval in seconds to wait for access confirmation by the operator. All the other requests from the Face recognition server will be ignored within the specified timeout.

9. If the **Server decides** access granting mode was selected, then from the **Mode** drop-down list (6) select the access rights checking mode:

- **Recognition only** - the server makes the access granting decision based only on face recognition.
- **Rights checking** - the server makes the access granting decision after successful face recognition and successful verification of user access rights (access level, time zones, blocking, antipassback). If this mode is selected, the following settings become available:

Mode	Rights checking
Check date of begin	Do not check
Check expiration	Do not check
Check blocking	<input type="checkbox"/>
Check AntiPassBack	<input type="checkbox"/>

- **Check date of begin** and **Check expiration** - sets the mode of checking the access card validity:
 - **Do not check** - do not check the start or expiration date of the card.
 - **Do not include** - do not include the start or expiration date of the card in the check.
 - **Include** - include the start or expiration date of the card in the check.
- **Check blocking** - set the checkbox to check if the user is blocked.
- **Check AntiPassBack** - set the checkbox to control double pass.
- **Temperature monitoring** - if it is required to only monitor the face temperature (see [Face temperature monitoring and control](#)).
- **Temperature control** - if it is required to only control the face temperature threshold exceeding (see [Face temperature monitoring and control](#)). If this mode is selected, the following settings become available:

Mode	Temperature control
Lock user on temp. alarm	<input type="checkbox"/>

- **Lock user on temp. alarm** - set the checkbox if it is necessary to automatically block the user when the temperature is exceeded (the **User blocked - Yes** parameter will be set in the *Access Manager* module). If the joint operation with the ACS and dynamics are enabled, then such a user will be automatically removed from the controller and therefore will be denied access.

10. Click **Apply** button (7) to save changes.

Organizing of virtual access point while face recognition is performed.

3.3 Two-factor verification management

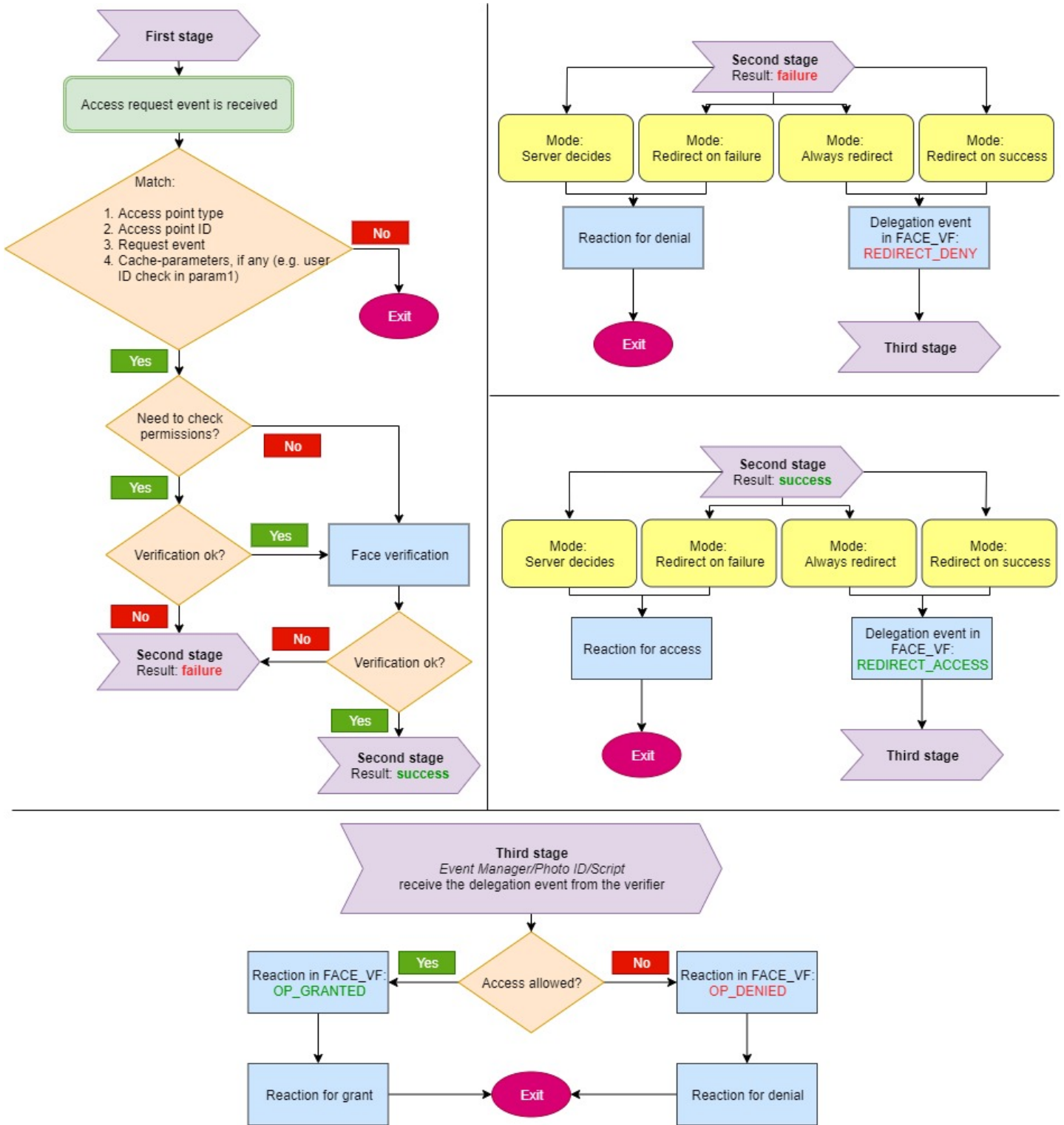
3.3.1 General information about two-factor verification

In ACS systems, the two-factor verification allows to grant the access only after a successful verification of both the user's access card and the user's face.

Attention!

In this mode, the user's access card should always be applied first, and only then the user's face will be verified.

Two-factor verification is performed in several stages. The block diagram of the two-factor verification operation is presented below.

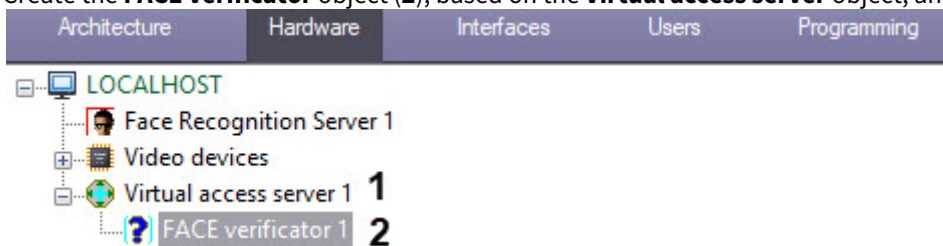


3.3.2 Configuring the two-factor verification

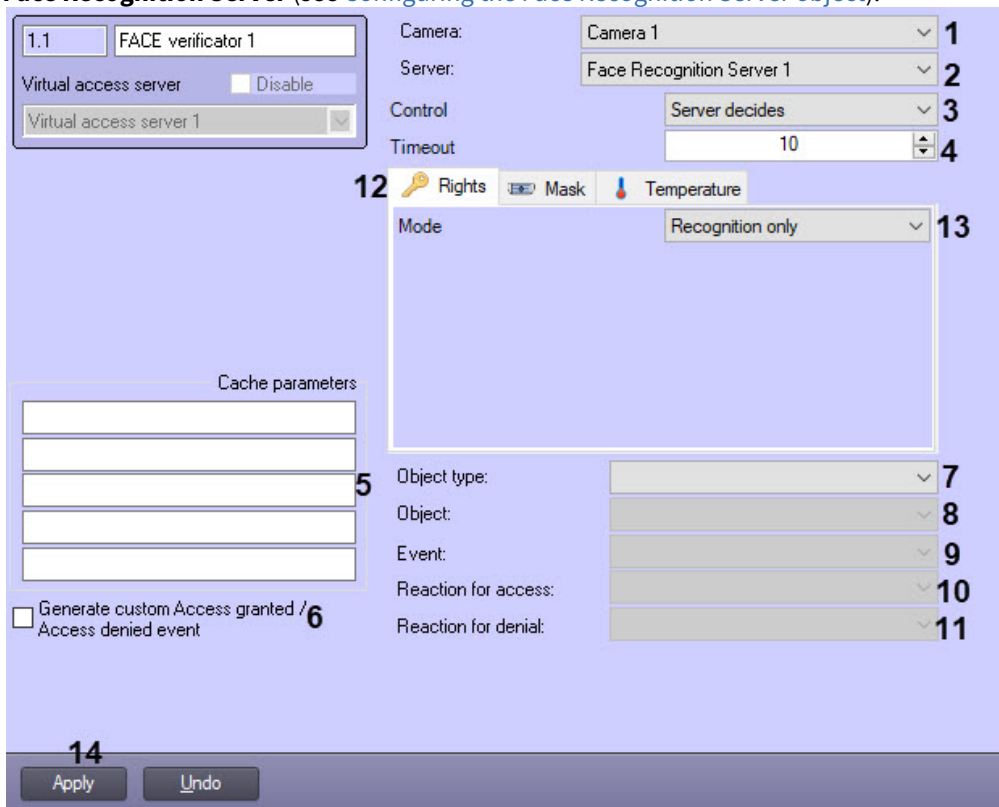
To configure two-factor verification, do the following:

1. On the **Hardware** tab of the **System settings** dialog box, create the **Virtual access server** object (1), based on the **Computer** object.

2. Create the **FACE vericator** object (2), based on the **Virtual access server** object, and go to its settings panel.



3. From the **Camera** drop-down list (1), select the camera that captures the faces. The camera should work as part of the **Face Recognition Server** (see [Configuring the Face Recognition Server object](#)).

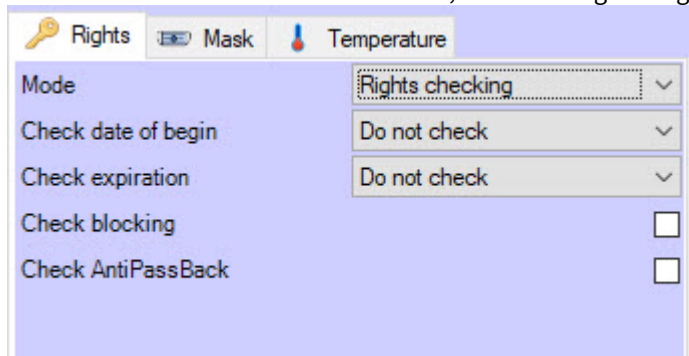


4. From the **Server** drop-down list (2), select the **Face Recognition Server**.
5. From the **Control** drop-down list (3) select the access granting mode:
 - **Server decides** - depending on the result of the access rights check or face verification, the access is granted or denied.
 - **Always redirect** - regardless of the result of the second stage, the verifier redirects its solution to the external verifier (*Event Manager/Photo ID/Script*). Depending on the result, the access is granted or denied.
 - **Redirect on failure** - if the first stage is successful, then this mode is similar to the **Server decides** mode. If the first stage is failed, then the solution is delegated to the external verifier.
 - **Redirect on success** - if the first stage is failed, then this mode is similar to the **Server decides** mode. If the first stage is successful, then the solution is delegated to the external verifier.
6. In the **Timeout** field (4), enter the time in seconds after which the connection with the **Face Recognition Server** is terminated.
7. If necessary, in the fields of the **Cache parameters** group (5), set the parameters that are specific for each ACS integration module.

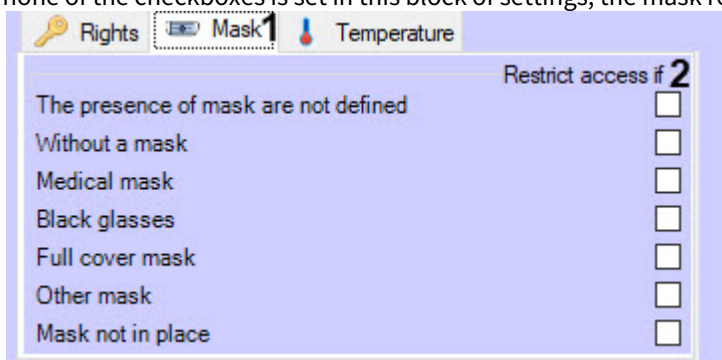
Note

For example, in the *PERCo-S-20 v.2* integration module, each request to the operator is accompanied by the **request_id** parameter. This parameter should be returned when confirming access, otherwise the command will be ignored. For the *Noder ACS*, such parameter is **param1**.

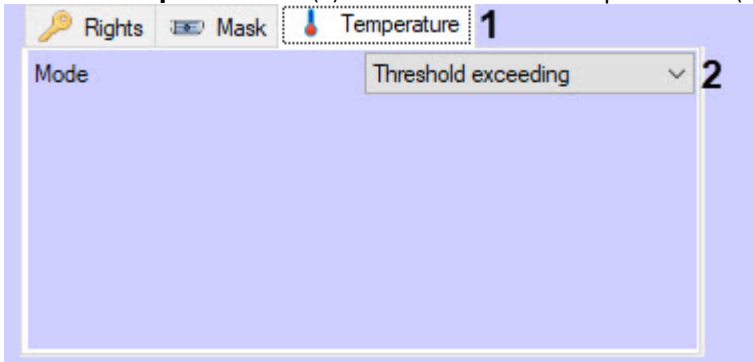
8. Set the **Generate custom Access granted / Access denied event** checkbox (6) if it is necessary that the **FACE verifier** object generates an additional event about granting/denying access, and specifies the reason for the denial. These events can be used to work with scripts or the *Event manager* interface module.
9. From the **Object type** drop-down list (7), select the type of object that will initiate the face check. Typically, this is an access point, reader, etc.
10. From the **Object** drop-down list (8), select the object of the type specified above.
11. From the **Event** drop-down list (9), select the event by which the face check will be launched. The list of available events depends on the selected object type.
12. From the **Reaction for access** drop-down list (10), select the command that will be sent to the initiating object upon the successful face verification. The list of available commands depends on the selected object type.
13. From the **Reaction for denial** drop-down list (11), select the command that will be sent to the initiating object upon the unsuccessful check/face verification. The list of available commands depends on the selected object type.
14. On the **Rights** tab (12), from the **Mode** drop-down list (13) select the access rights checking mode:
 - **Recognition only** - the server makes the access granting decision based only on face verification.
 - **Rights checking** - the server makes the access granting decision after successful verification of user access rights (access level, time zones, blocking, antipassback) and, then, successful face verification. If at the stage of checking access rights, a discrepancy in rights is found, then the device will be prompted to deny access, and face verification will not be started. The access denial event from the **FACE verifier** object will not be displayed in the *Event viewer*. If this mode is selected, the following settings become available:



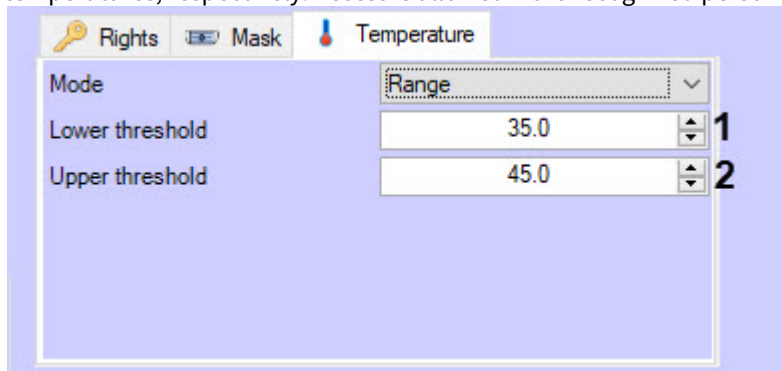
- **Check date of begin** and **Check expiration** - sets the mode of checking the access card validity:
 - **Do not check** - do not check the start or expiration date of the card.
 - **Do not include** - do not include the start or expiration date of the card in the check.
 - **Include** - include the start or expiration date of the card in the check.
 - **Check blocking** - set the checkbox to check if the user is blocked.
 - **Check AntiPassBack** - set the checkbox to control double pass.
15. Go to the **Mask** tab (1) and set the **Restrict access if** checkboxes (2) to deny access in cases marked by the checkboxes. If none of the checkboxes is set in this block of settings, the mask recognition will be ignored.



16. Go to the **Temperature** tab (1) and from the **Mode** drop-down list (2) select one of the options:



- Do not control** - regardless of the temperature, the recognized person will be allowed access.
- Threshold exceeding** – access denied if the temperature threshold set in the **Face Recognition Server** on the **Analytics** tab is exceeded (for details, see [Face Recognition Server settings panel](#)).
- Range** - in the **Lower threshold** (1) and **Upper threshold** (2) fields, specify the minimum and maximum allowable temperatures, respectively. Access is allowed if the recognized person's temperature is within the specified range.



17. Click the **Apply** button (14) to save the settings.

An example of the two-factor verification configured for the *Noder ACS* integration module is presented below.

The two-factor verification is configured.

3.4 Face temperature monitoring and control

3.4.1 General information about face temperature monitoring and control

The **Virtual Access Server** software module allows to receive the face temperature, which is measured by the thermal camera on the *Face-Intellect* side during the face recognition. The face temperature, for example, can be displayed on the Operator's monitor using the *Event manager* software module and, in case the specified temperature threshold is exceeded, the access point can be blocked until the alarm is processed by the Operator.

3.4.2 Configuring the face temperature monitoring and control

To configure the face temperature monitoring and control, do the following:

1. Configure *Face-Intellect* according to the [documentation](#).

✔ [Configuring the Face Recognition Server operation with thermal camera](#)

2. Configure the **FACE access point** object according to the [documentation](#). The required settings are shown below:
 - If it is necessary to only monitor the face temperature (display only), then select **Temperature monitoring** from the **Mode** drop-down list.
 - If it is necessary to control the face temperature threshold exceeding, then select **Temperature control** from the **Mode** drop-down list.

Note

To simultaneously monitor and control the face temperature, it is necessary to create two **FACE access point** objects, and set the temperature monitoring/control mode for each of them.

3. Configure the *Event manager* module according to the [documentation](#). The required settings are shown below:
 - a. Create and configure the **Rule of displaying** object for each monitoring/control mode:
 - For the **Type of object** parameter, select **FACE access point**.
 - For the **Template** parameter, select a display template for the temperature monitoring or control, respectively (see step 3.b).
 - On the **Objects** tab, select the appropriate **FACE access point** object for the temperature monitoring or control.
 - On the **Events** tab, if the **Rule of displaying** object is configured for the temperature monitoring, set the checkbox for the **Face recognized (temperature log)** event. If the **Rule of displaying** object is configured for the temperature control, then set the checkbox for the **Face with high temperature recognized** event.
 - b. Create and configure the **Template of displaying** object for each monitoring/control mode:

✔ [Database field object properties](#)

- i. To display the name of the event for which the *Event manager* is configured, add the **Database field** object and specify the following value in the **Unusual** parameter:

```
rule_service_action_name
```

- ii. To display the full name, add several **Database field** objects and specify the value from the database (First name, Surname, Patronymic) in the **Predefined** field, or add only one **Database field** object, and specify the following value in the **Unusual** parameter:

```
{param0}
```

- iii. To display the date and time when the face and temperature were recognized, add the **Database field** object and specify the following value in the **Unusual** parameter:

{date} {time}

- iv. To display the temperature received from the thermal camera, add the **Database field** object and specify the following value in the **Unusual** parameter:

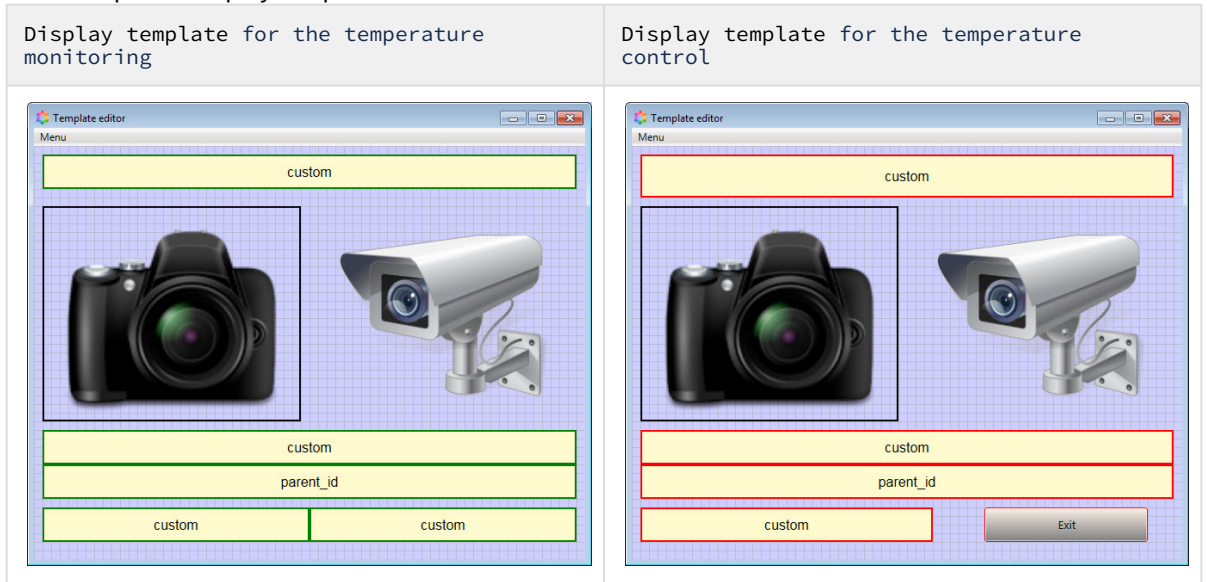
{temperature}

Note

For example, for a temperature control template, you can specify the following in the **Unusual** parameter:

Attention! High temperature: {temperature} °C {\n} Door blocked.

- v. The examples of display templates are shown below.



- 4. If it is necessary to display a face captured by the camera of the Face Recognition Server, when the face could not be recognized, then configure the *Event Manager* module according to the [documentation](#). The following settings are required:
 - a. Create and configure a new **Rule of displaying** object:
 - For the **Type of object** parameter, select **Face Recognition Server**.
 - For the **Template** parameter, select a template for displaying the unrecognized face (see paragraph 4.b).
 - On the **Objects** tab, select the corresponding **Face Recognition Server** object.
 - On the **Events** tab, set the checkbox for the **Not recognized** event.
 - b. Create and configure a new **Template of displaying** object, add the **Photo** element to it, and specify the following in its **Parameter** property:

imageBase64

Photo object properties

The example of a configured system for the temperature monitoring and control:

1. Temperature monitoring mode:

Captured face	Original from DB	Full name	Temperature	Camera	Date/Time
		Filini Maria Axxon 79,3 %	36,7	Cam main door	13.05.2020 16:43:00
		Filini Maria Axxon 56,4 %	36,2	Cam main door	13.05.2020 16:42:54
		Filini Maria Axxon 70,0 %		Cam main door	13.05.2020 16:42:35
		Filini Maria Axxon 97,0 %		Cam main door	13.05.2020 16:42:28
		Filini Maria Axxon 97,0 %		Cam main door	13.05.2020 16:42:12

Face recognized (temperature log)

Full name: Filini Maria. (36.7°C)

Axxon

Date:13-05-20 Time: 16.43.02 Temperature: 36.7°C

2. Temperature control mode:

Captured face	Original from DB	Full name	Temperature	Camera	Date/Time
		Kruise Mike Axxon 95,5 %	39,7	Cam main door	13.05.2020 16:47:44
		Nikolajon Elisabeth Axxon 56,9 %	36,1	Cam main door	13.05.2020 16:47:38
		Chopra Sabina Axxon 51,0 %	36,0	Cam main door	13.05.2020 16:47:26
		Nikolajon Elisabeth Axxon 63,4 %		Cam main door	13.05.2020 16:47:23
		Kruise Mike Axxon 78,4 %	36,8	Cam main door	13.05.2020 16:46:31

Attention! High temperature: 39.7 °C
Door blocked.

Full name: Kruise Mike. (39.7°C)

Axxon

Date:13-05-20 Time: 16:47:45 Tempn. 39.7°C

Exit

4 Working with Virtual Access Server module

The following interface objects are most often used to work with the *Virtual Access Server* software module:

- **Event viewer** (see [Intellect software package: Administrator's Guide](#) and [Intellect software package: Operator's Guide](#));
- **Event manager** (see [Event Manager Module Settings and Operation Guide](#));
- **Access Manager** (see [Access Manager Module Settings and Operation Guide](#)).