ACFA Intellect

ZK Teco Integration Module Settings Guide

Introduction into ZK Teco Module Settings Guide

On the page:

Purpose of the document

This *ZK Teco Module Settings Guide* is a reference manual designed for *ZK Teco* Module configuration technicians. This module is part of an access control system (ACS) built on the *ACFA Intellect* Software System.

This Guide presents the following materials:

1. general information about the *ZK Teco* integration module;
2. configuration of the *ZK Teco* integration module;
3. working with the *ZK Teco* integration module.

General information about the ZK Teco integration module

The *ZK Teco* module is a component of an ACS built on the *ACFA Intellect* Software System. It was designed to perform the following functions:

1. Configuration of the *ZK Teco* ACS (manufactured by ZKTeco);
2. Interaction between the *ZK Teco* ACS and the *ACFA Intellect* Software System (monitoring, control).

Note.
Detailed information about the *ZK Teco* ACS is presented in the official documentation for that system.

Before configuring the *ZK Teco* Module, the following actions must be performed:

1. Install the *ZK Teco* ACS hardware on the protected territory.
2. Configure the *ZK Teco* ACS in vendor's software (see the official reference documentation).
3. Connect the *ZK Teco* ACS to the Server.

Supported hardware and licensing of the ZK Teco integration module

Manufacturer	ZKTeco ZK Building, Wuhe Road, Gangtou, Bantian, Buji Town, Longgang District, Shenzhen, China. Phone: +86 755-33985019 Fax: 12 39 89 901 http://zkteco.su/
Integration type	SDK
Equipment connection	Ethernet, RS485

Supported equipment

Equipment	Function	Features
C3-100	Access controller	Number of cards (users): 1000 Reader ports: 2 (Wiegand 26/34, pin-panel (keypad) 8 bit) Communications: TCP/IP, RS232/485 Output ports: x Form-C double-contact relay output, 1x Form-C double contact relay AUX output

C3-200	Access controller	Number of cards (users): 30000 Reader ports: 4 (2Wiegand 26/34, 2 pin-panel (keypad) 8 bit) Communications: TCP/IP, RS232/485 Input ports: 6 (Exit1, Exit2, Sensor1, Sensor2, AUX1, AUX2) Output ports: 2x Form-C double-contact relay output, 2x Form-C double contact relay AUX output
C3-400	Access controller	Number of cards (users): 30000 Reader ports: 4 (2Wiegand 26/34, 2 pin-panel (keypad) 8 bit) Communications: TCP/IP, RS232/485 Input ports: 12 (Exit1, Exit2, Exit3, Exit4, Sensor1, Sensor2, Sensor3, Sensor4, AUX1, AUX2, AUX3, AUX4) Output ports: 4x Form-C double-contact relay output, 4x Form-C double contact relay AUX output

Protection
1 door.

Configuration of the ZK Teco integration module

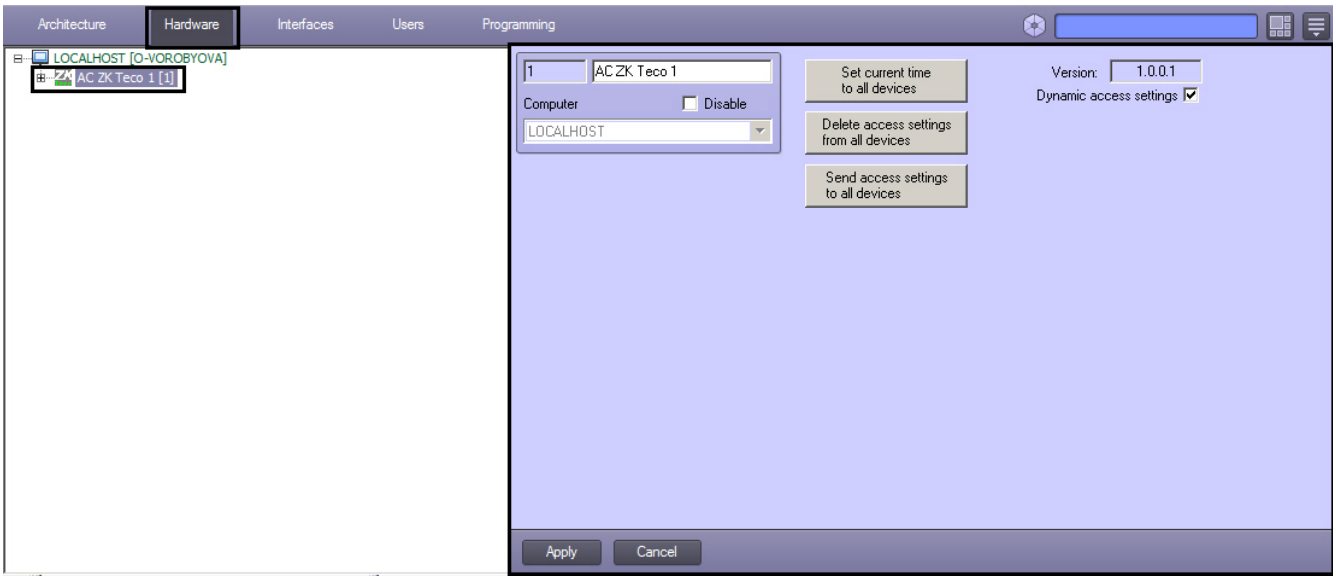
Configuration procedure for the ZK Teco integration module

The *ZK Teco* integration module is configured through the following steps:

1. Activation of the *ZK Teco* integration module.
2. Configuration of the *ZK Teco* connection via Ethernet.
3. Configuration of the *ZK Teco* connection via COM-port.
4. Configuration of the *ZK Teco* Gate Controller C3-100.
5. Configuration of the *ZK Teco* Gate Controller C3-200.
6. Configuration of the *ZK Teco* Gate Controller C3-400.
7. Configuration of *ZK Teco* doors.
8. Configuration of *ZK Teco* multicard combinations.
9. Creating the ZK Teco groups

Activation of the ZK Teco Integration module

To activate the *ZK Teco* integration module create the **AC ZK Teco** object on the basis of the **Computer** object on the **Hardware** tab of the **System settings** dialog window.



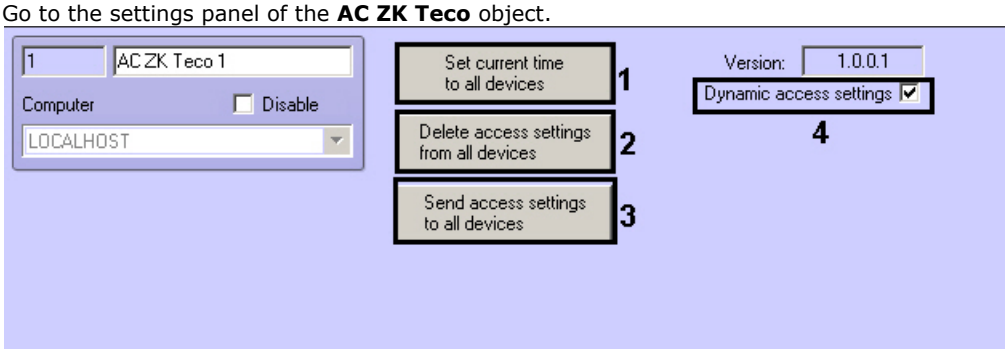
Forwarding the ZK Teco ACS's configuration to controllers

Forwarding the configuration to all *ZK Teco* controllers is described in this section. Also it's possible to forward the

configuration to each controller separately (see the Managing the configuration of a ZK controller section).

To forward the *ZK Teco* ACS's configuration, do the following:

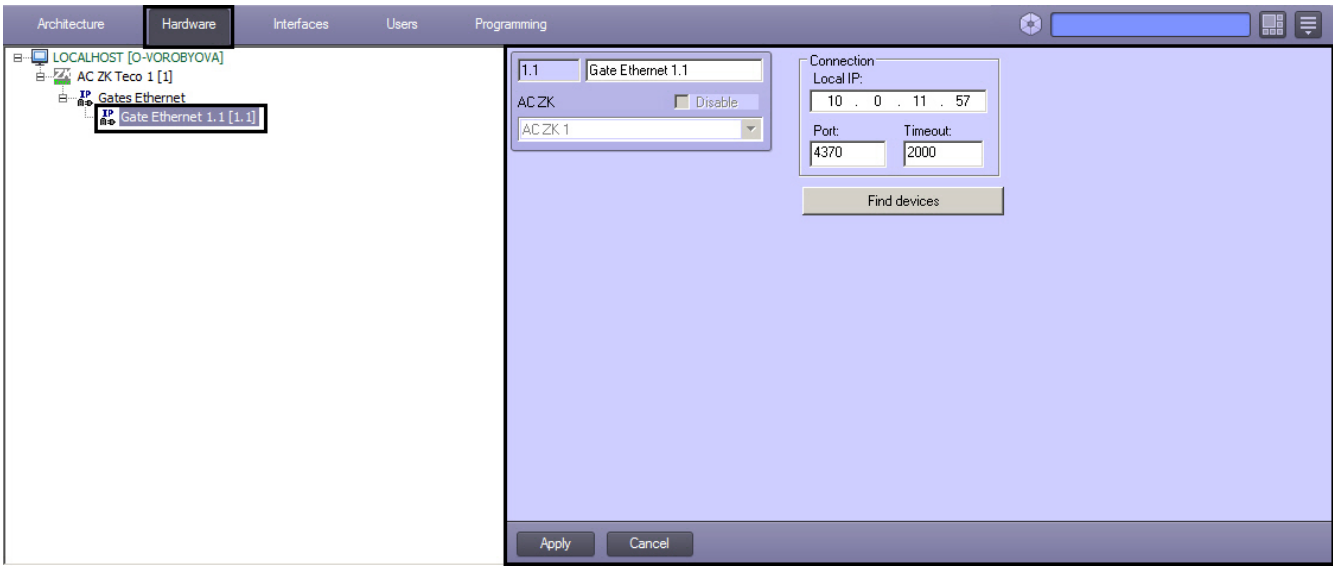
1. Go to the settings panel of the **AC ZK Teco** object.



2. Click the **Set current time to all devices** button to synchronize the time of all the controllers with the *Intellect* Se rver time (**1**).
3. To delete access settings from all controllers click the corresponding button (**2**).
4. To send access settings to all controllers click the corresponding button (**3**).
5. Set the **Dynamic access settings** checkbox for automatic forwarding data of the *Access Manager* module to controllers (**4**).

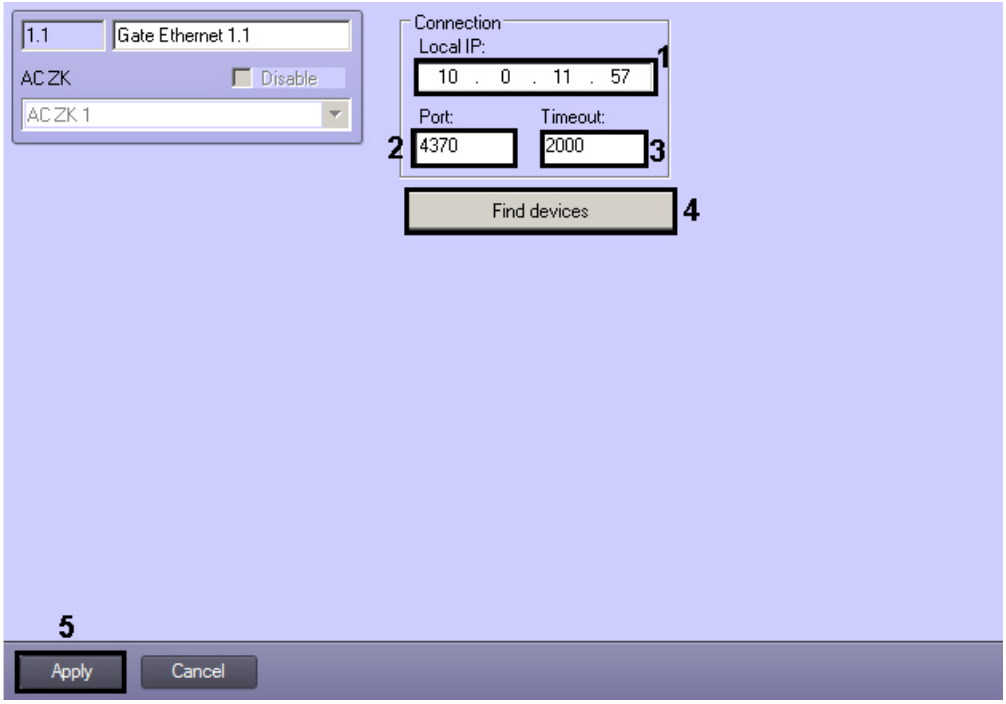
Configuring the connection via Ethernet standard

Connection via Ethernet standard is configured on the settings panel of the **Gate Ethernet** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the connection via Ethernet, do the following:

1. Go to the settings panel of the **Gate Ethernet** object.

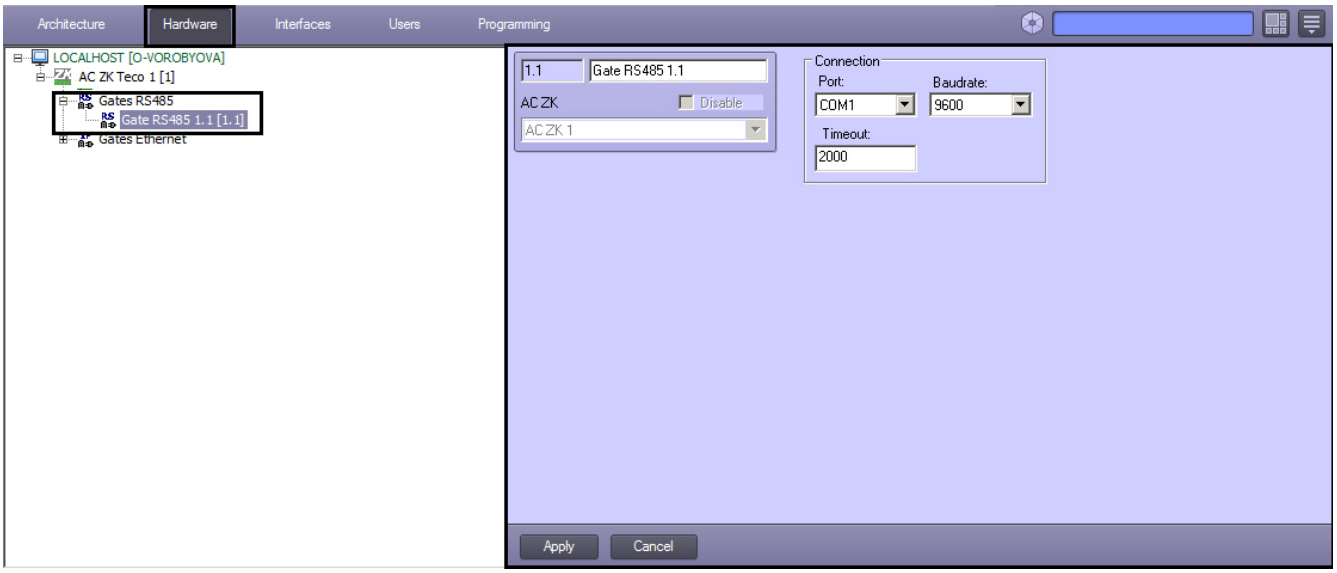


2. In the **Local IP:** field enter the IP-address of the *Intellect* Server (**1**).
3. In the **Port:** field enter the number of connection port (**2**).
4. In the **Timeout:** field enter the connection timeout in milliseconds (**3**).
5. Click the **Find devices** button to search devices for connection (**4**).
6. Click the **Apply** button (**5**).

Configuring of connection via Ethernet standard is completed.

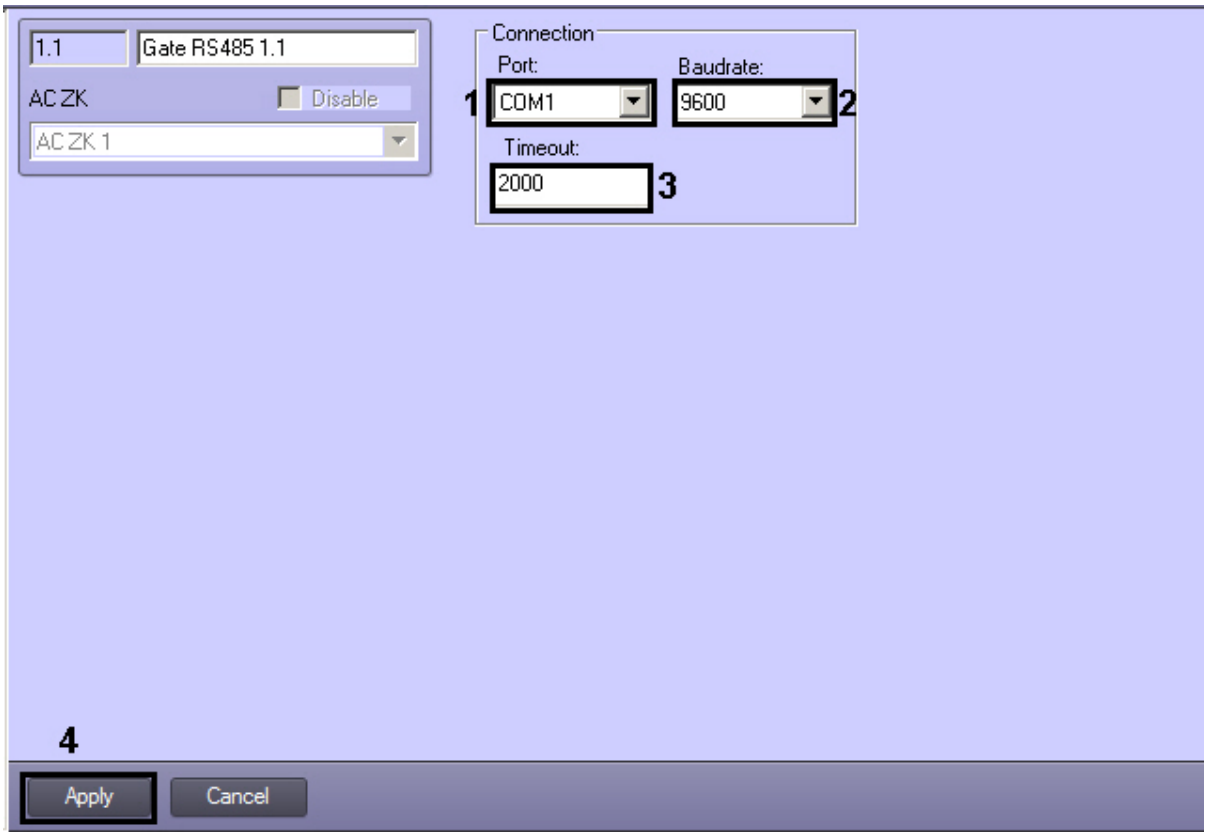
Configuring the connection via RS-485 standard

Connection via RS-485 standard is configured on the settings panel of the **Gate RS 485** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the connection via COM-port, do the following:

1. Go to the settings panel of the **Gate RS 485** object.



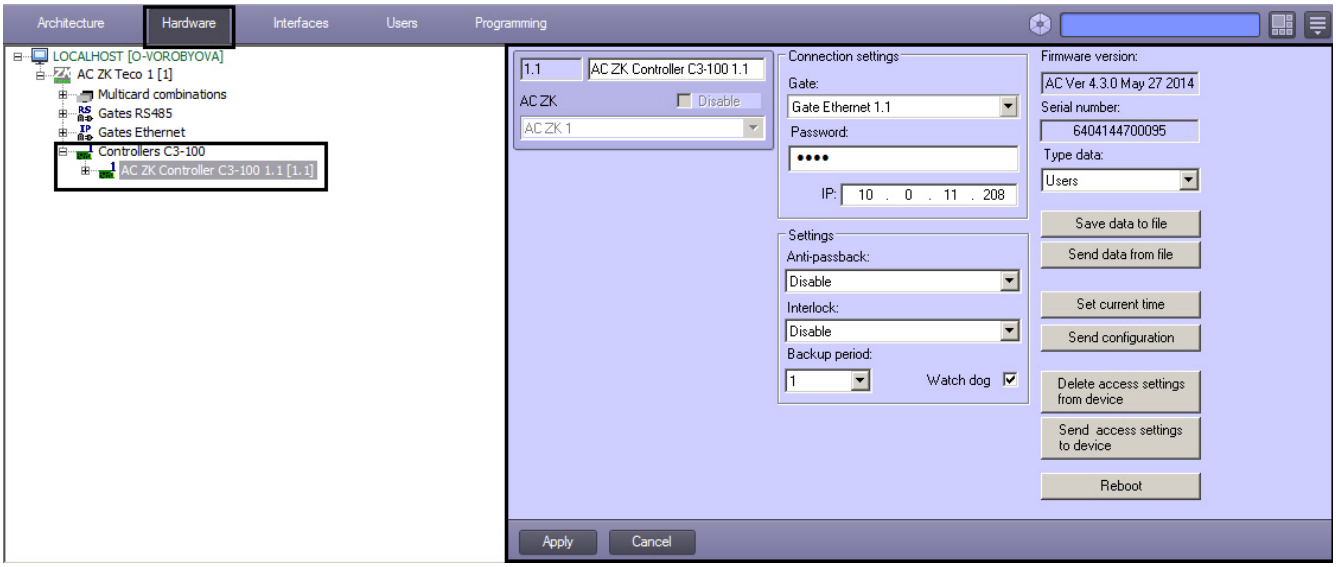
2. From the **Port:** drop-down list select the COM-port number of connection (**1**).
3. From the **Baudrate:** drop-down list select the speed of connection (**2**).
4. In the **Timeout:** field enter the connection timeout in milliseconds (**3**).
5. Click the **Apply** button (**4**).

Configuring of connection via RS-485 standard is completed.

Configuring of ZK controllers

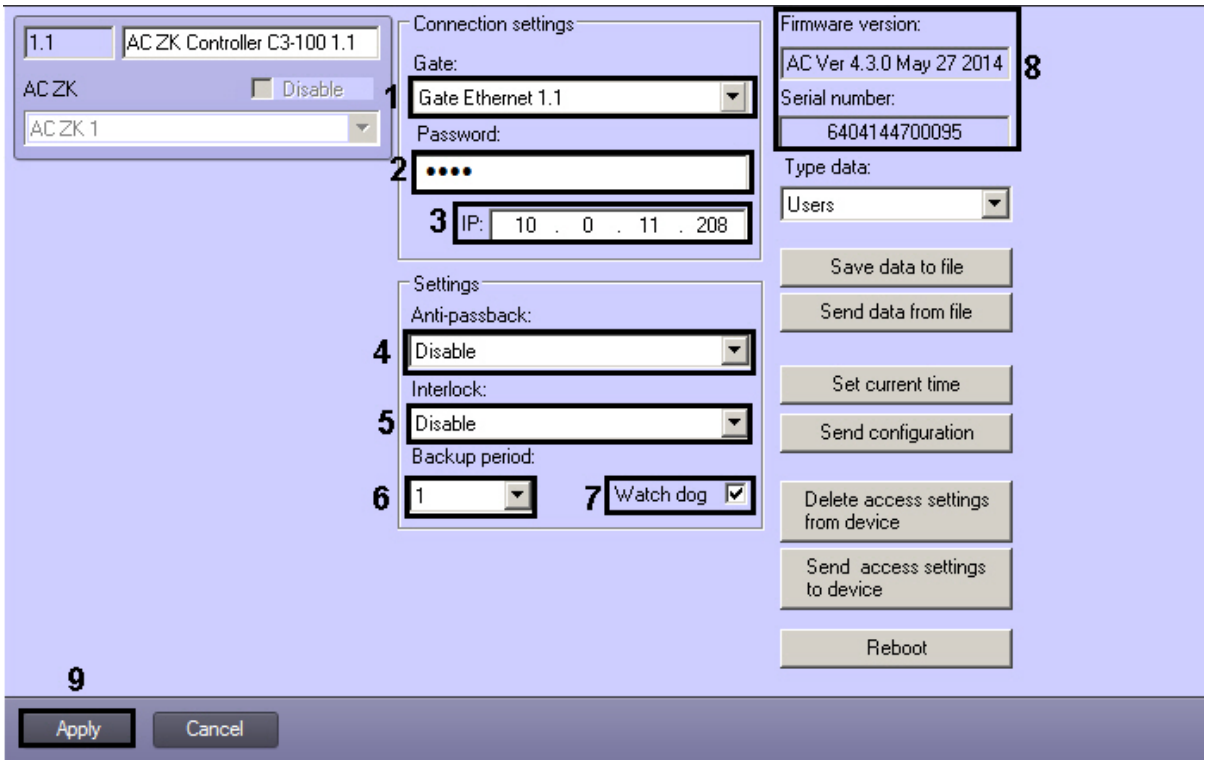
Configuring the C3-100 controller

The controller C3-100 is configured on the settings panel of the **AC ZK Controller C3-100** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the C3-100 controller, do the following:

1. Go to the settings panel of the **AC ZK Controller C3-100** object.



2. From the **Gate:** drop-down list select the type of controller connection: via Ethernet or RS-485 standard (**1**).
3. In the **Password**: field enter the password for controller connection **(2**).
4. In the **IP:** field enter the IP-address of the controller (**3**).
5. From the **Anti-passback:** drop-down list select the rule of anti-passback operation (**4**):
    a. Disable – the anti-passback function is disabled
    b. Readers of Door 1 – the anti-passback function is enabled between the readers of Door 1.
6. The *Interlock* function is always disabled for the single-door controller (**5**).
7. From the **Backup period:** drop-down list select the time interval in minutes for saving the database backup (**6**).
8. Set the **Watch dog** checkbox to activate the control mode (**7**).

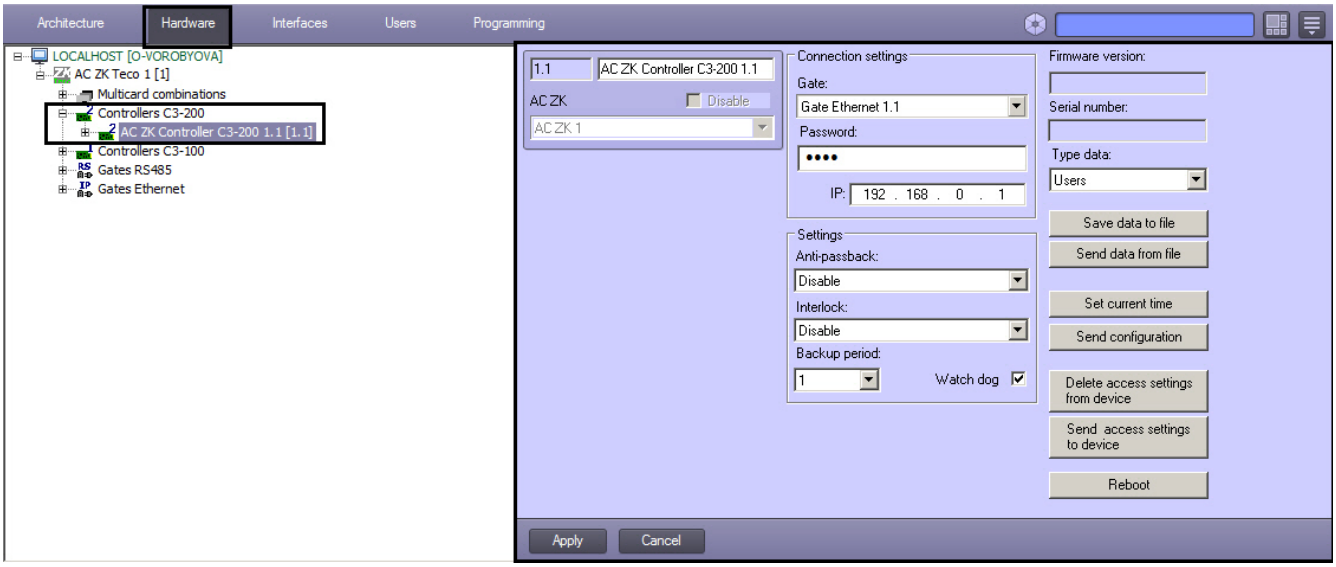
> **Note.**
> The version of firmware and serial number of controller will automatically display in the corresponding fields while connecting the controller (**8**).

9. Click the **Apply** button (**9**).

Configuring of the C3-100 controller is completed.

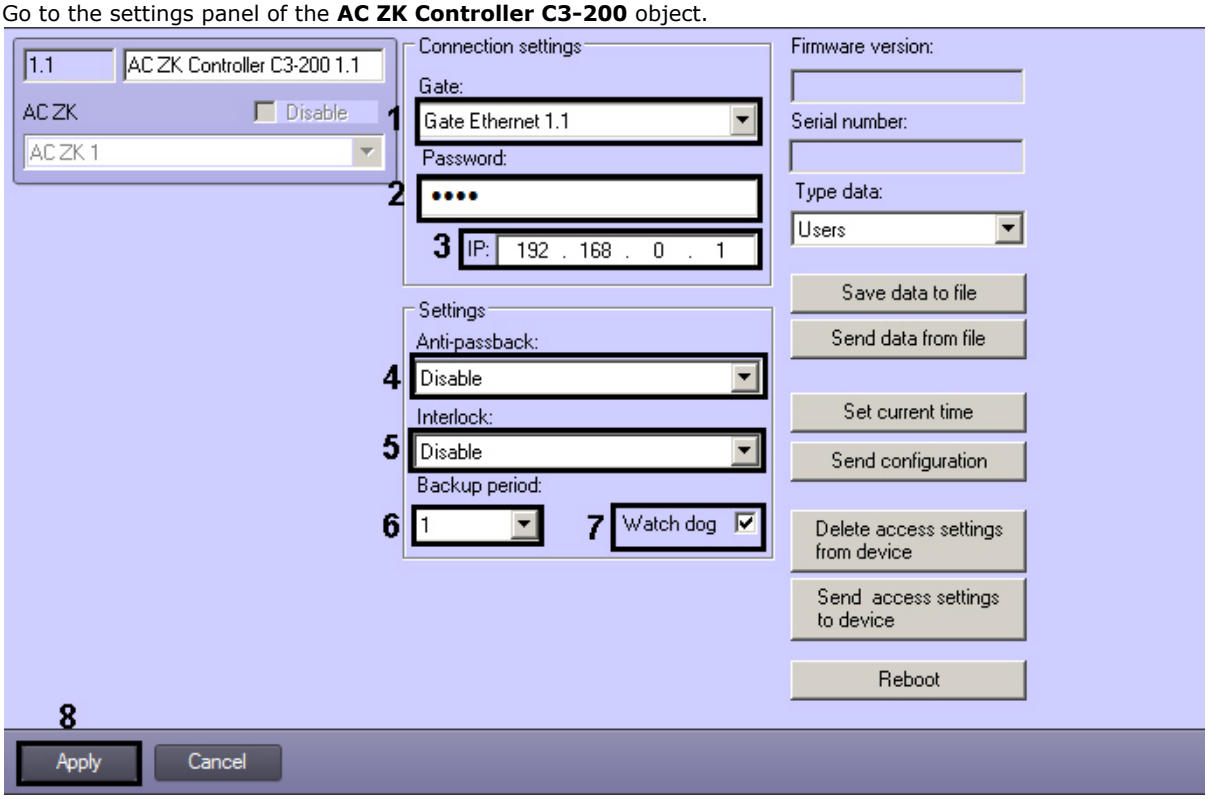
Configuring the C3-200 controller

The controller C3-200 is configured on the settings panel of the **AC ZK Controller C3-200** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the C3-200 controller, do the following:

1. Go to the settings panel of the **AC ZK Controller C3-200** object.



2. From the **Gate:** drop-down list select the type of controller connection: via Ethernet or RS-485 standard (**1**).
3. In the **Password**: field enter the password for controller connection **(2**).
4. In the **IP:** field enter the IP-address of the controller (**3**).
5. From the **Anti-passback:** drop-down list select the rule of anti-passback operation (**4**):
    a. Disable – the anti-passback function is disabled
    b. Readers of Door 1 – the anti-passback function is enabled between the readers of Door 1.
    c. Readers of Door 2 – the anti-passback function is enabled between the readers of Door 2.
    d. Readers of door 1, readers of door 2 – the anti-passback function is enabled between the readers of Door 1 and Door 2 respectively.
    e. Door 1 and 2 – the anti-paccback function is enabled between the readers of Door 1 and Door 2.
6. From the **Interlock:** drop-down list select the mode of doors interlocking (**5**).
    a. Disable – the interlock function is disabled.
    b. Door 1 and 2 – doors 1 and 2 are interlocked mutually.
7. From the **Backup period:** drop-down list select the time interval in minutes for saving the database backup (**6**).
8. Set the **Watch dog** checkbox to activate the control mode (**7**).

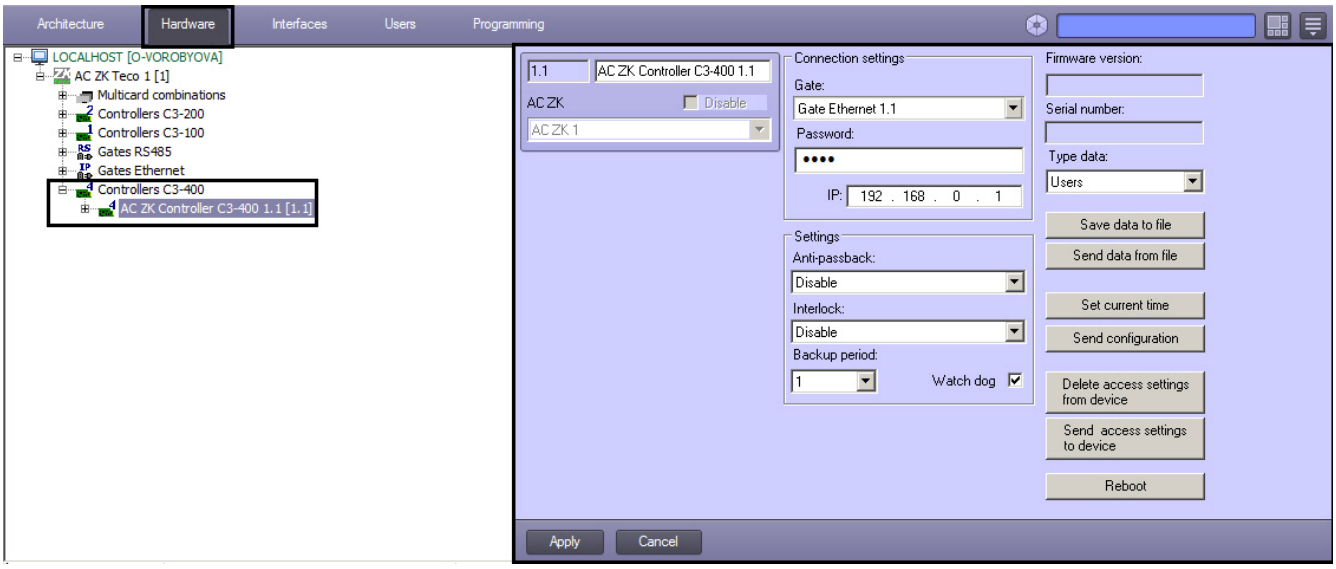
> **Note.**
> The version of firmware and serial number of controller will automatically displayed in the corresponding fields while connecting the controller.

9. Click the **Apply** button (**8**).

Configuring of the C3-200 controller is completed.

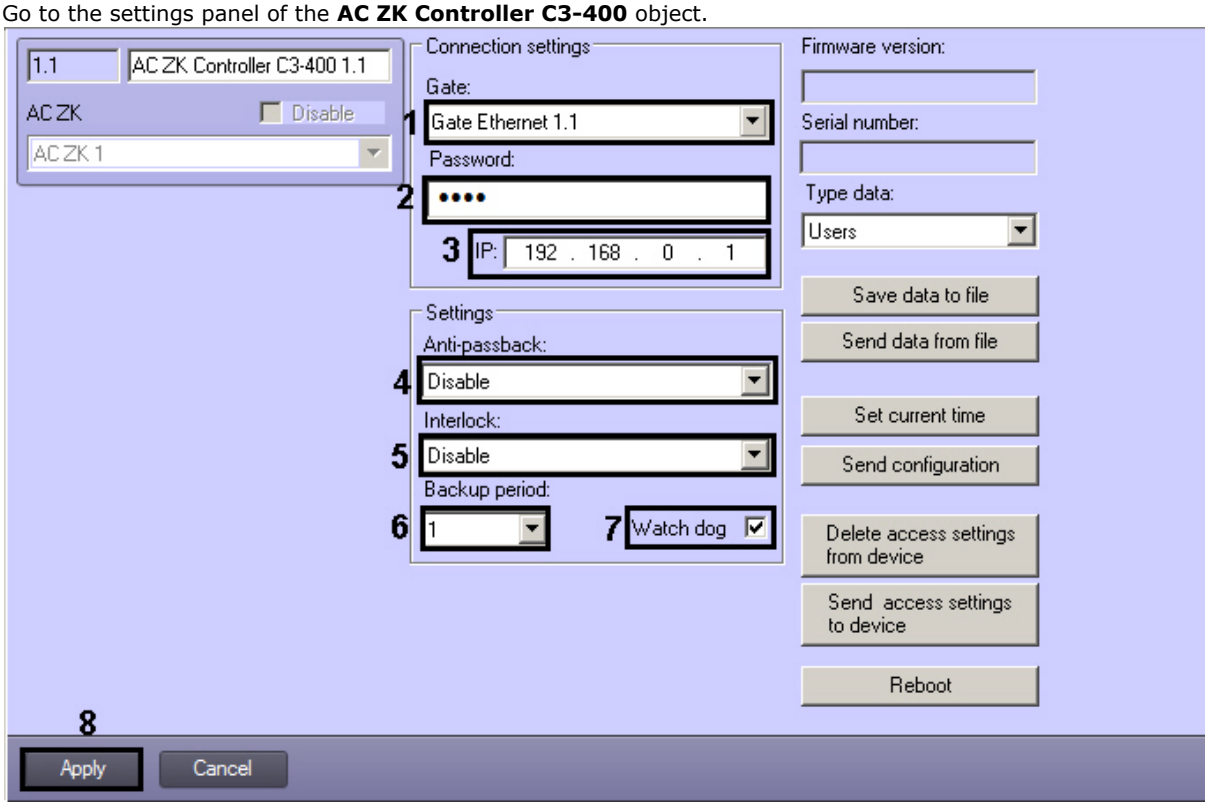
Configuring the C3-400 controller

The controller C3-400 is configured on the settings panel of the **AC ZK Controller C3-400** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the C3-400 controller, do the following:

1. Go to the settings panel of the **AC ZK Controller C3-400** object.



2. From the **Gate:** drop-down list select the type of controller connection: via Ethernet or RS-485 standard (**1**).
3. In the **Password**: field enter the password for controller connection **(2**).
4. In the **IP:** field enter the IP-address of the controller (**3**).
5. From the **Anti-passback:** drop-down list select the rule of anti-passback operation (**4**):
    a. Disable – the anti-passback function is disabled
    b. Doors 1 and 2 – the anti-passback function is enabled between the readers of Door 1 and Door 2.
    c. Doors 3 and 4 – the anti-passback function is enabled between the readers of Door 3 and Door 4.
    d. Doors 1 and 2, doors 3 and 4 – the anti-passback function is enabled between the readers of Door 1, Door 2, Door 3 and Door 4.
    e. Doors 1, 2 and doors 3, 4 – the anti-passback is enabled between Door 1, 2 and Door 3, 4.
    f. Door 1 and doors 2, 3 – the anti-passback is enabled between Door 1 and Door 2, 3.
    g. Door 1 and doors 2, 3, 4 – the anti-passback is enabled between Door 1 and Door 2, 3, 4.
6. From the **Interlock:** drop-down list select the mode of doors interlocking (**5**).
    a. Disable – the interlock function is disabled.
    b. Door 1 and 2 – door 1 and door 2 are interlocked mutually.
    c. Door 3 and 4 – door 3 and door 4 are interlocked mutually.
    d. Doors 1, 2 and 4 – door 1, door 2 and door 4 are interlocked mutually.
    e. Doors 1 and 2, doors 3 and 4 – door 1 and door 2 are interlocked mutually, door 3 and door 4 are interlocked mutually
    f. Doors 1, 2, 3 and 4 – door 1, door 2, door 3 and door 4 are interlocked mutually.
7. From the **Backup period:** drop-down list select the time interval in minutes for saving the database backup (**6**).

8. Set the **Watch dog** checkbox to activate the control mode (**7**).

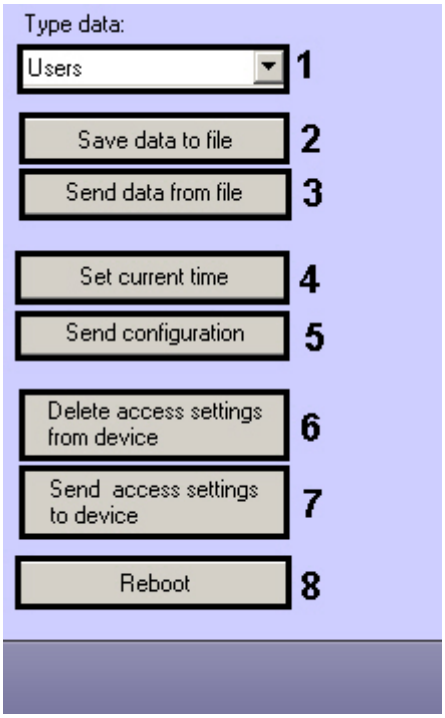
> **Note.**
> The version of firmware and serial number of controller will automatically displayed in the corresponding fields while connecting the controller.

9. Click the **Apply** button (**8**).

Configuring of the C3-400 controller is completed.

Managing the configuration of a ZK controller

Managing of configuration for a *ZK* controller includes the following actions:

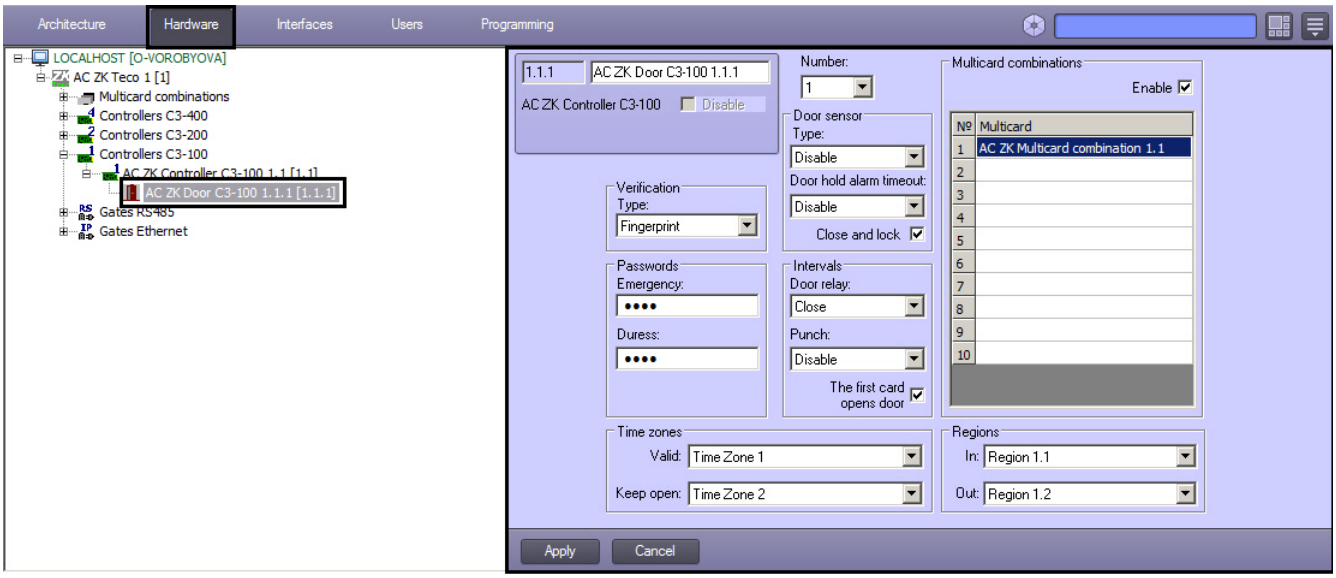


1. From the **Type data:** drop-down list select the type of data which is to be saved to the file (**1**).
2. Saving data of selected type to the file. Click the **Save data to file** button to perform this action (**2**). In the opened standard dialog window specify the path to the file in which data is to be saved.
3. Reading the saved data from the file. Click the **Send data from file** button to perform this action (**3**). In the opened standard dialog window specify the path to file from which data is re be read.
4. Synchronization time of a controller with the *Intellect* Server time. Click the **Set current time** button to perform this action (**4**).
5. Forwarding configuration to the *ZK* controller. Click the **Send configuration** button to perform the forwarding (**5**).
6. Deleting access settings from the *ZK* controller. Click the **Delete access settings from device** button to perform this action (**6**).
7. Forwarding access settings to the *ZK* controller. Click the **Send access settings to device** button to perform this action (**7**).
8. Restarting the controller. Click the **Reboot** button to restart the controller (**8**).

> **Note.**
> The actions listed above are available for all controllers supported by the *ACFA Intellect* software: *C3-100*, *C3-200* and *C3-400*.

Configuring the ZK Teco doors

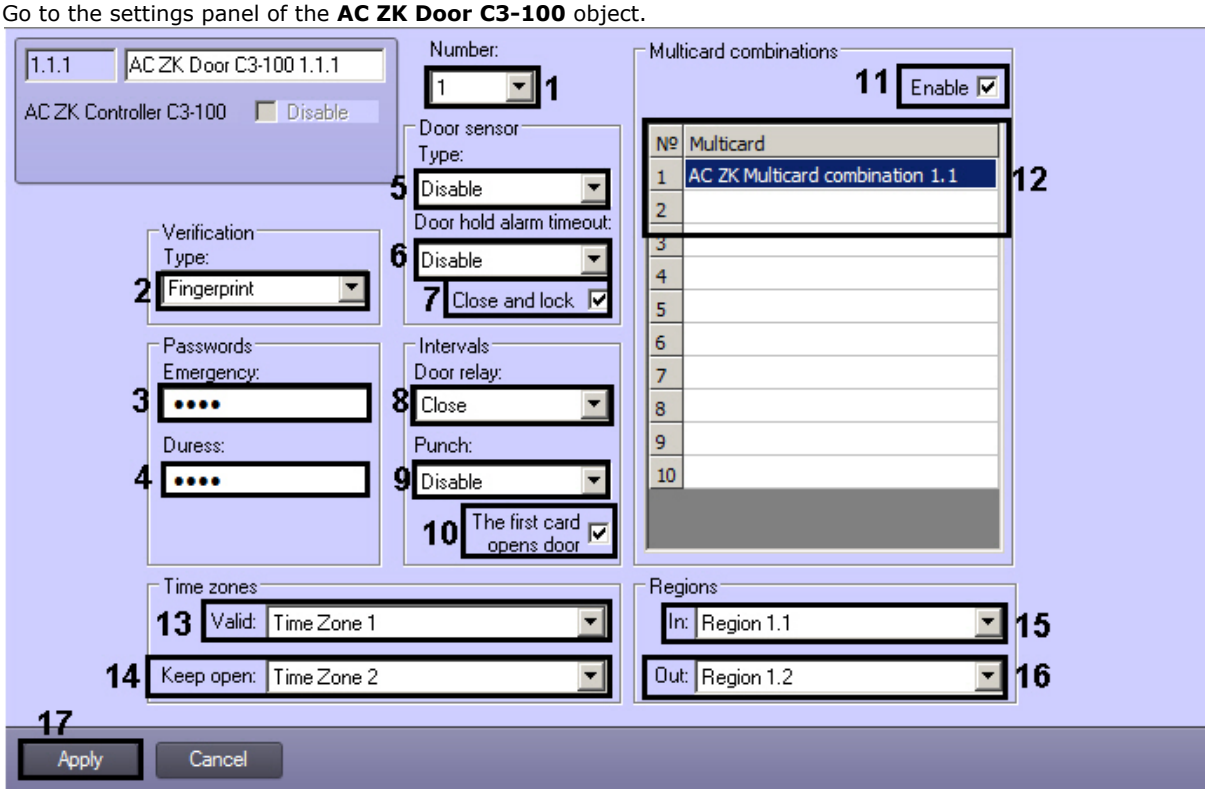
The *ZK Teco* door for the controller C3-100 is configured on the settings panel of the **AC ZK Door C3-100** object which is created on the basis of the **AC ZK Controller C3-100** object on the **Hardware** tab of the **System settings** dialog window.



Note.
Available number of doors is automatically created under the corresponding controller, i.e. one door is created under the controller C3-100, two doors under the controller C3-200 and four doors under the controller C3-400.

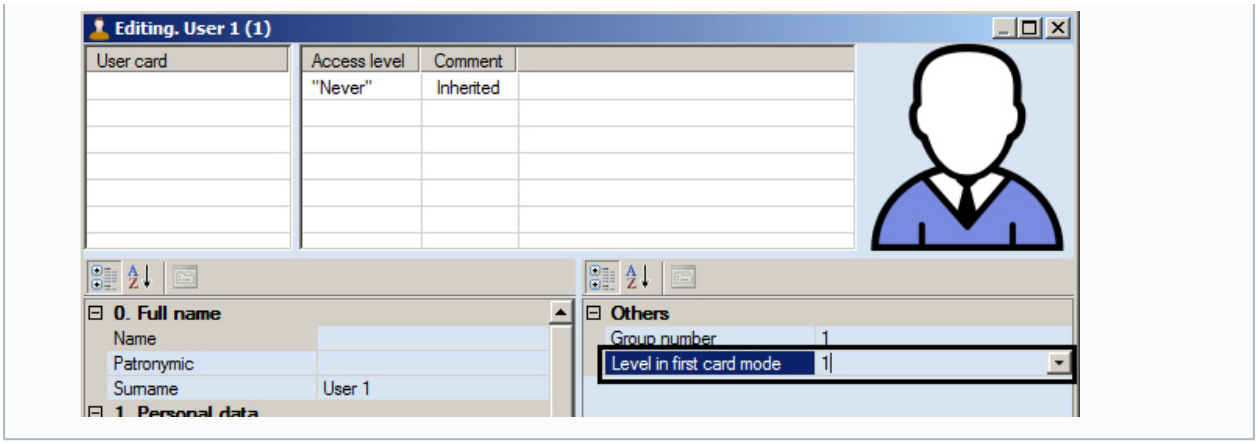
To configure the *ZK Teco* door, do the following:

1. Go to the settings panel of the **AC ZK Door C3-100** object.



2. From the **Number:** drop-down list select the number of the door (**1**).
3. From the **Type:** drop-down list select the type of verification (**2**).
4. In the **Emergency:** field enter the password for door open (**3**).
5. In the **Duress:** field enter the password for door open and triggering the alarm event (**4**).
6. From the **Type:** drop-down list select the type of door sensor (**5**).
7. From the **Door hold alarm timeout:** drop-down list select the time interval during which door is opened (**6**).
8. Set the **Close and lock** checkbox to lock the door after its closing (**7**).
9. From the **Door relay:** drop-down list select the time interval of opening the door after the card presenting (**8**). Select the **Close** value for permanent closing the door. Select the **Open** value for permanent opening the door.
10. From the **Punch:** drop-down list select the time interval of card presenting (**9**).
11. Set **The first card opens door** checkbox to open the door using the first card (**10**).

Note.
Access level of first card for the door opening is configured in the panel of user editing in the *Access Manager* interface module. In the **Level in first card mode** field specify the corresponding access level.



12. Set the **Enable** checkbox to allow using of multicard combinations (**11**).
13. From the drop-down list in the **Multicard** column select the required multicard combination (configuring of multicard combinations is given in the section, **12**).
14. From the **Valid:** drop-down list select the time zone in which the door is active (**13**). If the **Never** value is selected, the door will not operate.
15. From the **Keep open:** drop-down list select the time zone in which the door will be normally opened (**14**).

> **Note.**
> The door will be opened in not more than 1 minute after starting the specified time zone.

16. From the **Region In:** drop-down list select the **Region** object located in the site of exit through the door (**15**).
17. From the **Region Out:** drop-down list select the Region object located in the site of entry through the door (**16**).
18. Click the **Apply** button (**17**).

To send the specified settings to controller click the **Send configuration** button on the settings panel of the **AC ZK Controller C3-100** object.

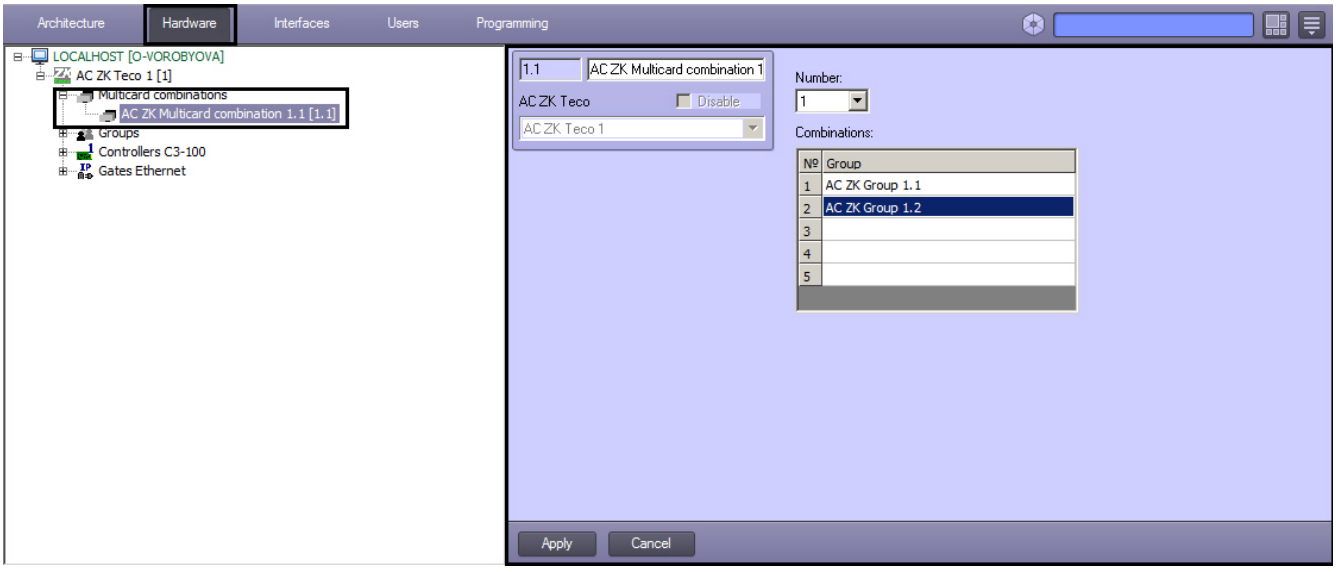
Configuring of the C3-100 door is completed.

> **Note.**
> Settings for doors of controllers C3-200 and C3-400 are the same.

Configuring the ZK Teco multicard combinations

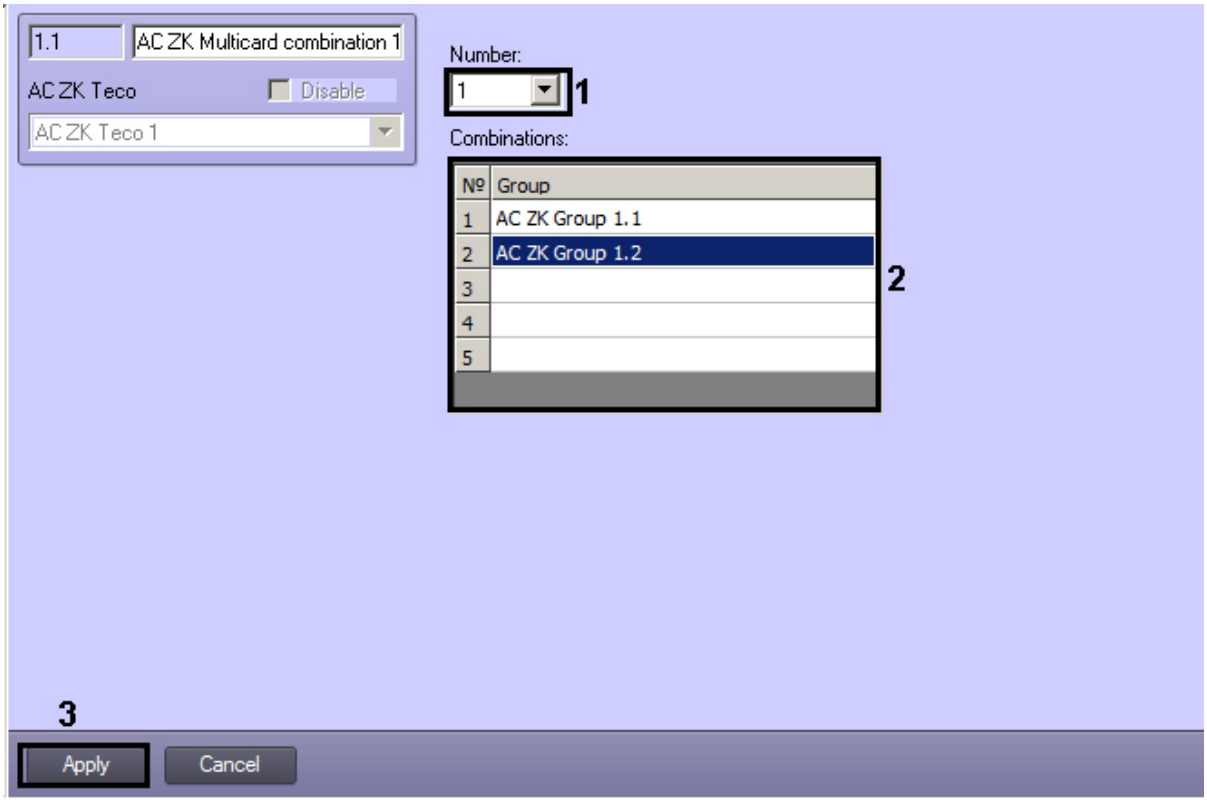
Multicard combination is in use for verifying the door opening by more than one person from different groups.

The *ZK Teco* multicard combination is configured on the settings panel of the **AC ZK Multicard combination** object which is created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.



To configure the multicard combination do the following:

1. Go the the settings panel of the **AC ZK Multicard combination** object.



2. From the **Number:** drop-down list select the number of multicard combination (**1**).
3. From the **Group** drop-down list of the **Combinations:** table select groups from which person should verify the door opening (**2**). The order of presenting cards by people from the specified groups is not important.
4. Click **Apply** button.

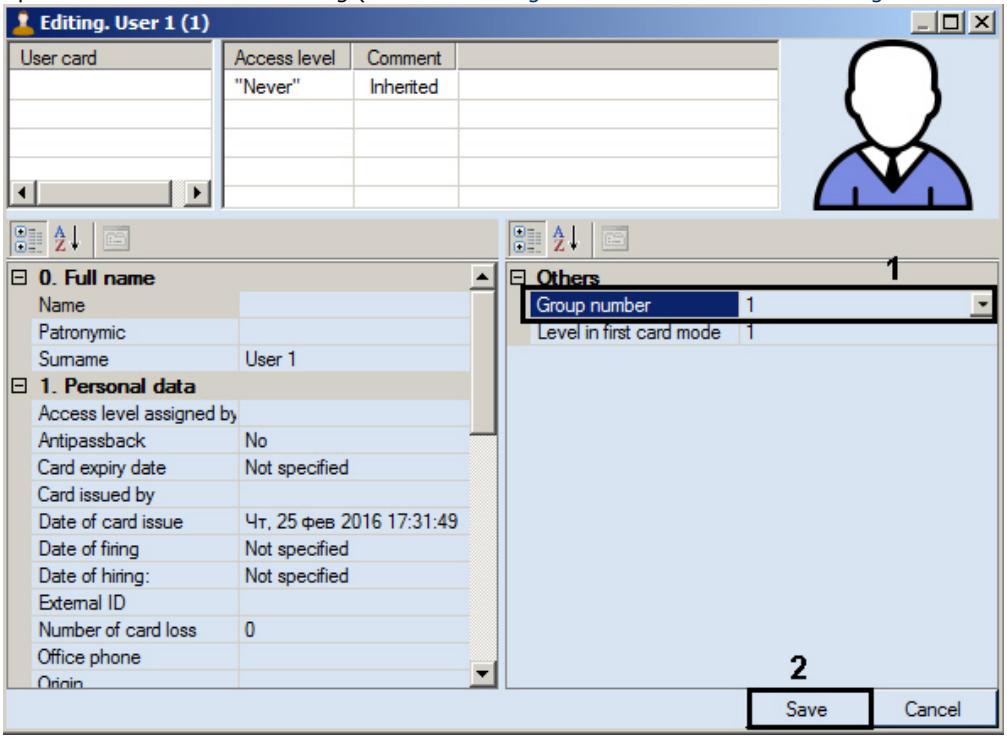
Configuring the *ZK Teco* multicard combination is now configured.

Creating the ZK Teco groups

To create the *ZK Teco* group use the *Access Manager* interface module (documentation for the *Access Manager* interface module is here).

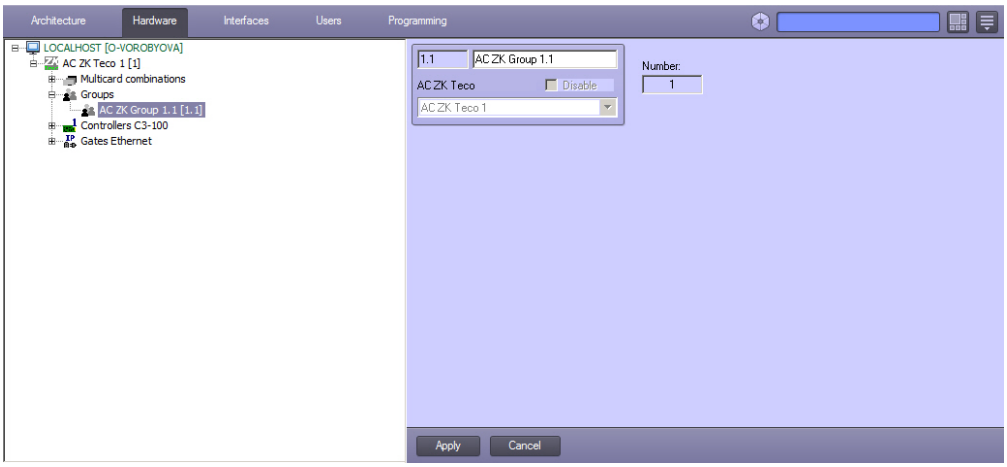
To create the *ZK Teco* group do the following:

1. Open the window of user editing (see the Working with users in the Access Manager software module section).



2. In the **Group number** field enter the number of group to which the edited person belongs (**1**).
3. Click the **Save** button (**2**).

As a result the group with the specified ID will be automatically created in the *ACFA Intellect* software package.



Working with the ZK Teco integration module

General information about working with the ZK Teco integration module

To work with the *Gate* integration module, use the following interface objects:

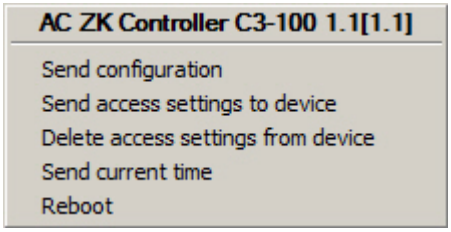
1. **Map**;
2. **Event log**.

The information on how to configure these interface objects can be found in Intellect Software package: Administrator's Guide.

Information on how to work with these interface objects can be found in Intellect Software package: Operator's Guide.

Control the ZK Teco controller

Control the *ZK Teco* controller is carried out in the **Map** interface window using functional menu of the **AC ZK Controller C3-100** object.



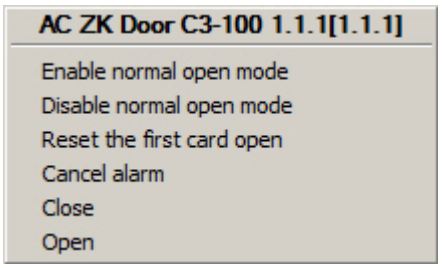
Available commands in the context menu are described in the table.

Command	Description
Send configuration	Sending configuration to the controller
Send access settings to device	Sending access settings to the controller
Delete access settings from device	Deleting access settings from the controller
Send current time	Synchronization time between the controller and the *Intellect* Server
Reboot	Restarting the controller

Note.
Commands for controlling the *C3-200* and *C3-400* controllers are the same.

Control the ZK Teco door

Control the *ZK Teco* door is carried out in the Map interface window using functional menu of the **AC ZK Door C3-100** obje ct.



Available commands in the context menu are described in the table.

Command	Description
Enable normal open mode	Enabling the mode of normal open
Disable normal open mode	Disabling the mode of normal opening
Reset the first card open	Reset of normal open by first card
Cancel alarm	Canceling of alarm
Close	Closing the door
Open	Opening the door

Note.
Commands for controlling doors corresponding to *C3-200* and *C3-400* controllers are the same.