ACFA Intellect

ZK Teco Integration Module Settings Guide

Last update 07/10/2022

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1 Introduction into ZK Teco Module Settings Guide

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1.1 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.

1.2 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.

2 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 (*number of readers*): **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 *Number of doors*: **1**
C3-200	Access controller	Number of cards (users): 30000 Reader ports (*number of readers*): **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 *Number of doors*: **2**
C3-400	Access controller	Number of cards (users): 30000 Reader ports (*number of readers*): **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 *Number of doors*: **4**

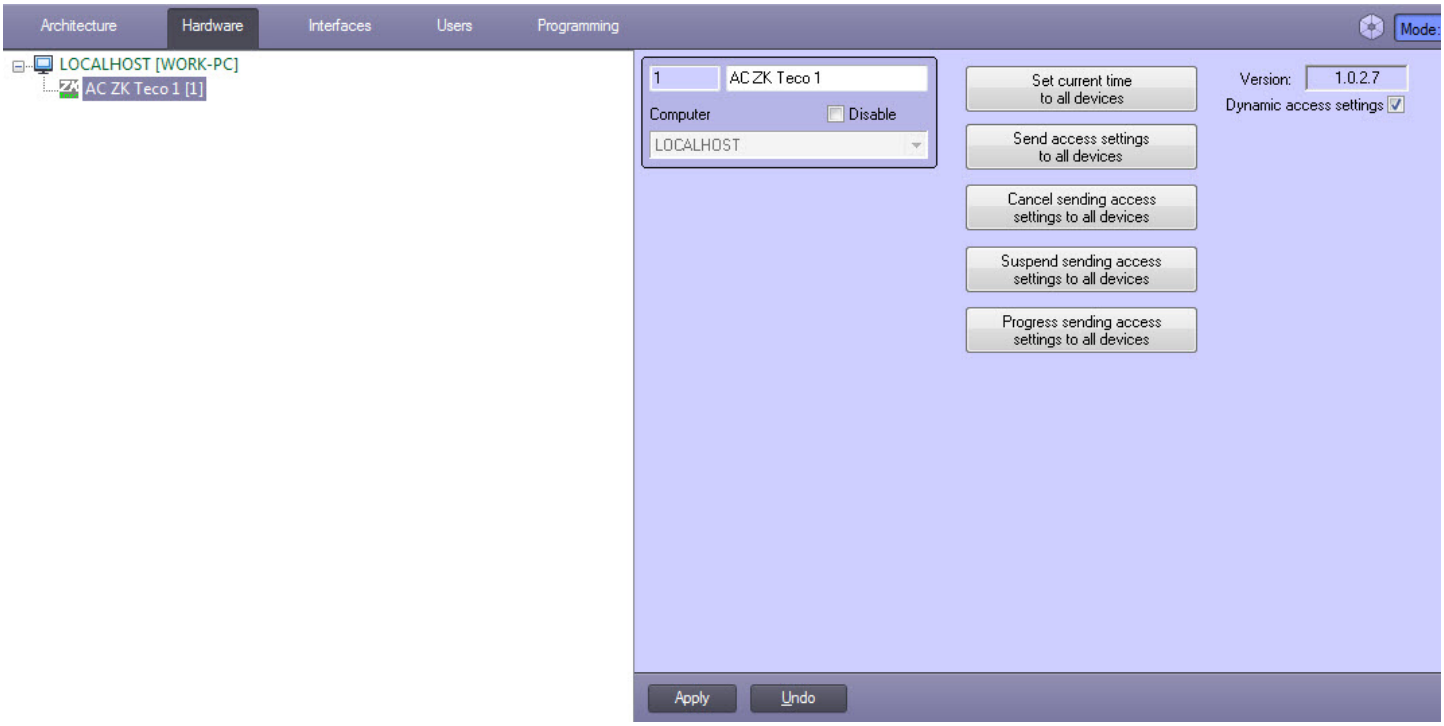
Protection

Per 1 door. The door may include 1 or 2 readers depending on the controller model. See the description of controller features for more details.

3 Configuration of the ZK Teco integration module

3.1 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.



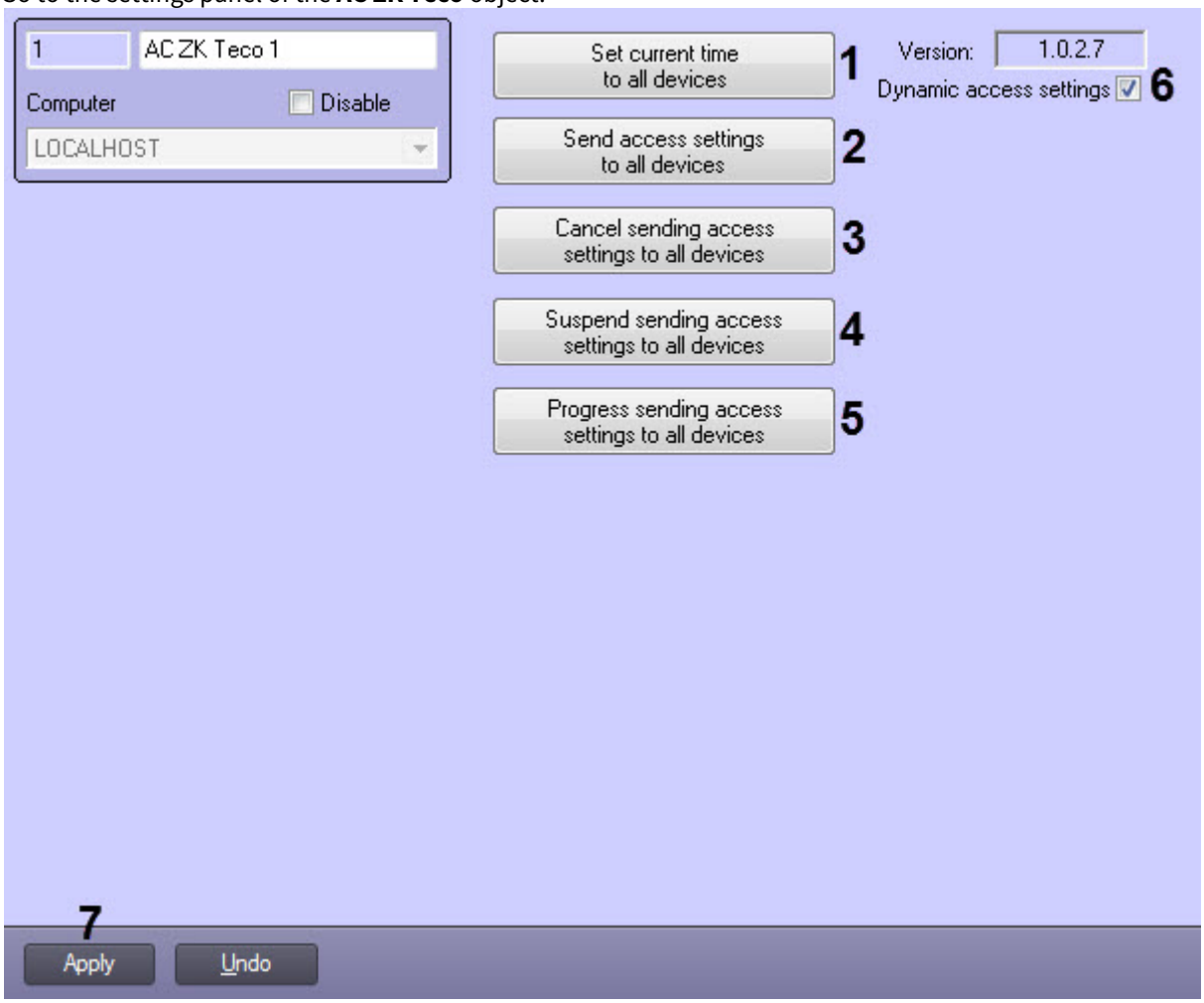
3.2 Configuring of ZK controllers

3.2.1 Managing the configurations of all ZK Teco controllers

This section describes how to manage the configurations of all *ZK Teco* controllers connected to the *ACFA-Intellect* Server at once. It is also possible to manage the configuration of each *ZK Teco* controller separately (see the Managing the configuration of a ZK controller section).

To manage the configurations of all *ZK Teco* controllers at once, 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 (**1**) to synchronize the time of all controllers with the Server time.
3. Click the **Send access settings to all devices** button (**2**) to start sending the access settings to all controllers.
4. Click the **Cancel sending access settings to all devices** button (**3**) to cancel sending the access settings to all controllers.
5. Click the **Suspend sending access settings to all devices** button (**4**) to suspend sending the access settings to all controllers.
6. Click the **Progress sending access settings to all devices** button (**5**) to resume sending the access settings to all controllers if it was previously suspended.
7. Set the **Dynamic access settings** checkbox to automatically send the data of the *Access Manager* module to all controllers (**6**).
8. Click the **Apply** button (**7**).

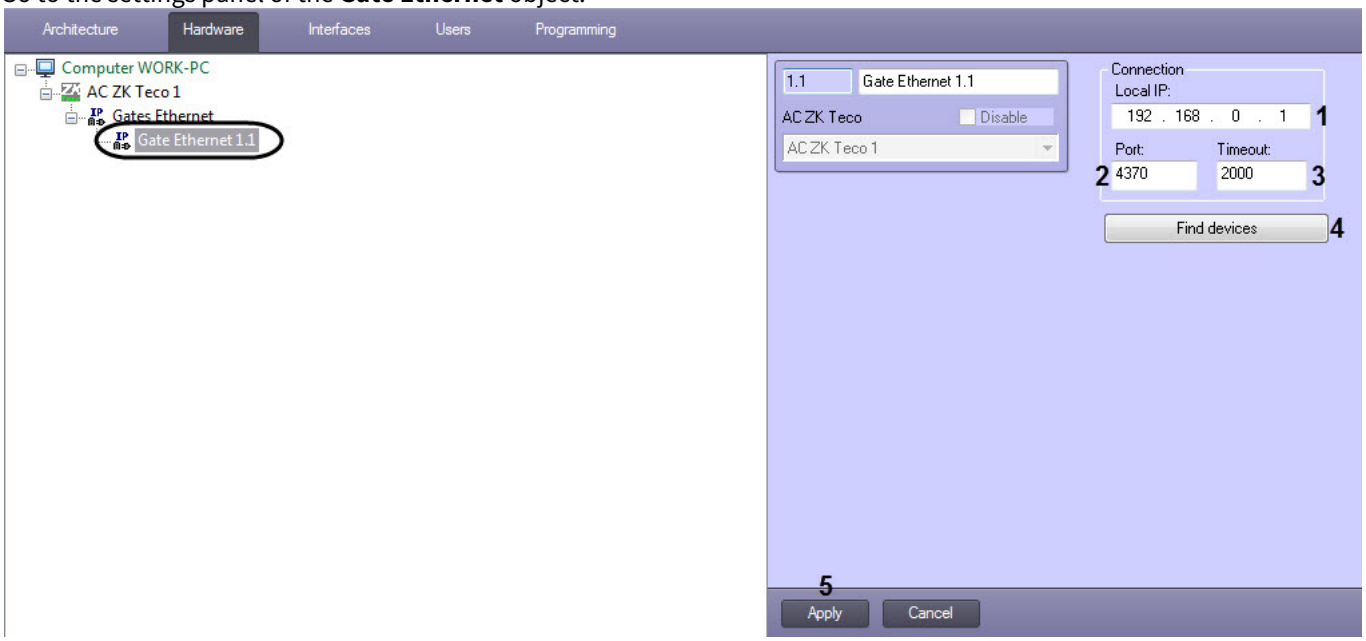
Managing the configurations of all *ZK Teco* controllers is now complete.

3.2.2 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**).

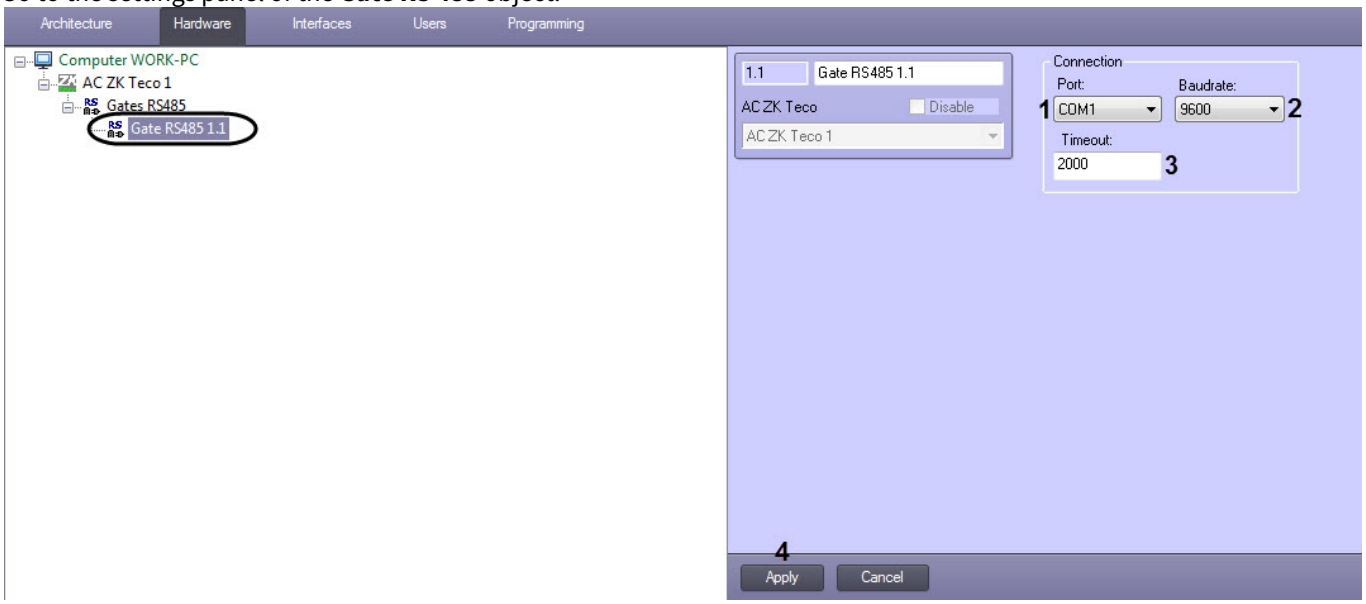
Configuring of connection via Ethernet standard is completed.

3.2.3 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.

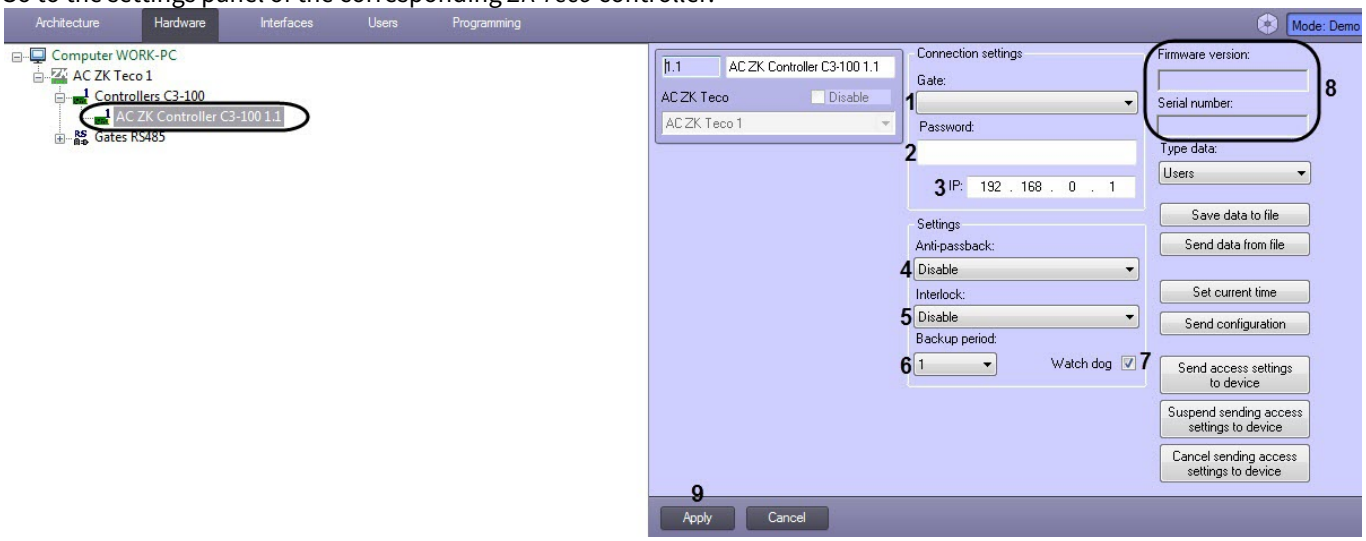
3.2.4 Configuring ZK C3-100, ZK C3-200, ZK C3-400 controllers

The ZK C3-100, ZK C3-200, ZK C3-400 controllers are configured on the settings panel of the corresponding objects **AC ZK Controller C3-100**, **AC ZK Controller C3-200** and **AC ZK Controller C3-400** which are created on the basis of the **AC ZK Teco** object on the **Hardware** tab of the **System settings** dialog window.

> **Note**
>
> The *ZK Teco* controller will be configured using the ZK C3-100 as an example. Other controllers are configured in the same way.

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

1. Go to the settings panel of the corresponding *ZK Teco* controller.



2. From the **Gate** drop-down list (**1**), select the type of controller connection (see Configuring the connection via Ethernet standard or Configuring the connection via RS-485 standard).
3. In the **Password** field (**2**), enter the password for controller connection.
4. If the Ethernet connection type was selected, then enter the IP address of the controller in the **IP** field (**3**).
5. If the the RS-485 standard connection type was selected, then select the connection COM port number from the **Address** drop-down list (**3**).
6. From the **Anti-passback** drop-down list (**4**), select the mode of anti-passback operation:

Mode	Description	Controller
Disable	The anti-passback function is disabled	All controllers
Readers of Door 1	The anti-passback function is enabled between the readers of Door 1	ZK C3-100, ZK C3-200
Readers of Door 2	The anti-passback function is enabled between the readers of Door 2	ZK C3-200
Readers of door 1, readers of door 2	The anti-passback function is enabled between the readers of Door 1 and Door 2 respectively	ZK C3-200
Door 1 and 2	The anti-passback function is enabled between the readers of Door 1 and Door 2	ZK C3-200, ZK C3-400
Doors 3 and 4	The anti-passback function is enabled between the readers of Door 3 and Door 4	ZK C3-400
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	ZK C3-400
Doors 1, 2 and doors 3, 4	The anti-passback is enabled between Door 1, 2 and Door 3, 4	ZK C3-400

Mode	Description	Controller
Door 1 and doors 2, 3	The anti-passback is enabled between Door 1 and Door 2, 3	ZK C3-400
Door 1 and doors 2, 3, 4	The anti-passback is enabled between Door 1 and Door 2, 3, 4	ZK C3-400

7. From the **Interlock** drop-down list (**5**), select the mode of doors interlocking:

Mode	Description	Controller
Disable	The interlock function is disabled	All controllers
Door 1 and 2	Doors 1 and 2 are interlocked mutually	ZK C3-200, ZK C3-400
Door 3 and 4	Door 3 and door 4 are interlocked mutually	ZK C3-400
Doors 1, 2 and 4	Door 1, door 2 and door 4 are interlocked mutually	ZK C3-400
Doors 1 and 2, doors 3 and 4	Door 1 and door 2 are interlocked mutually, door 3 and door 4 are interlocked mutually	ZK C3-400
Doors 1, 2, 3 and 4	Door 1, door 2, door 3 and door 4 are interlocked mutually	ZK C3-400

> **Note**
>
> To open one of the interconnected doors, the other interconnected doors in the group must remain closed. This means that in a group of interconnected doors, only one door can be opened at a time.

8. From the **Backup period** drop-down list (**6**), select the time interval in minutes for the automatic backup of data of the specified type (see Managing the configuration of a ZK controller).
9. Set the **Watch dog** checkbox (**7**) to enable the automatic data backup.
10. Click the **Apply** button (**9**).

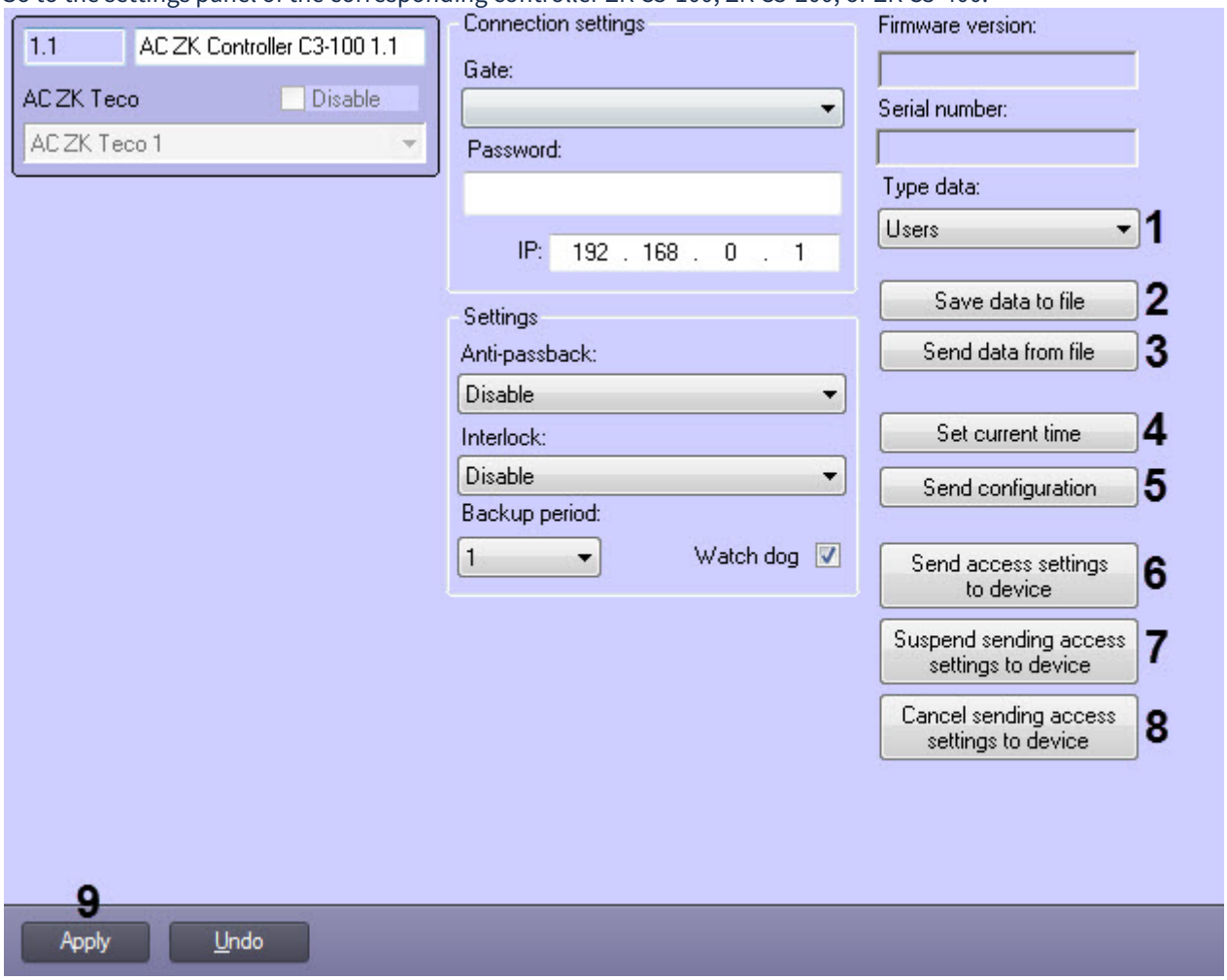
> **Note.**
>
> After a successful connection with the controller is established, the firmware version and the controller serial number will automatically be displayed in area (**8**).

Configuring the ZK C3-100, ZK C3-200, ZK C3-400 controllers is now completed.

3.2.5 Managing the configuration of a ZK controller

The *ZK* controller configuration is managed as follows:

1. Go to the settings panel of the corresponding controller ZK C3-100, ZK C3-200, or ZK C3-400.



2. From the **Type data** drop-down list (**1**), select the type of data which is to be saved to the file:
   - **Users**;
   - **Time zones**;
   - **Access levels**;
   - **Multicards**;
   - **First cards**.
3. Click the **Save data to file** button (**2**) to save the data of selected type. In the opened standard dialog window specify the path to the file in which data is to be saved.
4. Click the **Send data from file** button (**3**) to read the saved data from the file. In the opened standard dialog window specify the path to file from which data is to be read.
5. Click the **Set current time** button (**4**) to synchronize the controller time with the Server time.
6. Click the **Send configuration** button (**5**) to forward the configuration to the controller.
7. Click the **Send access settings to device** button (**6**) to forward the access settings to the controller.
8. Click the **Suspend sending access settings to device** button (**7**) to suspend sending the access settings to the controller.
9. Click the **Cancel sending access settings to device** button (**8**) to cancel sending the access settings to the controller
10. Click **Apply** (**9**).

Managing the configuration of a ZK controller is now coplete.

3.3 Configuring the ZK Teco doors

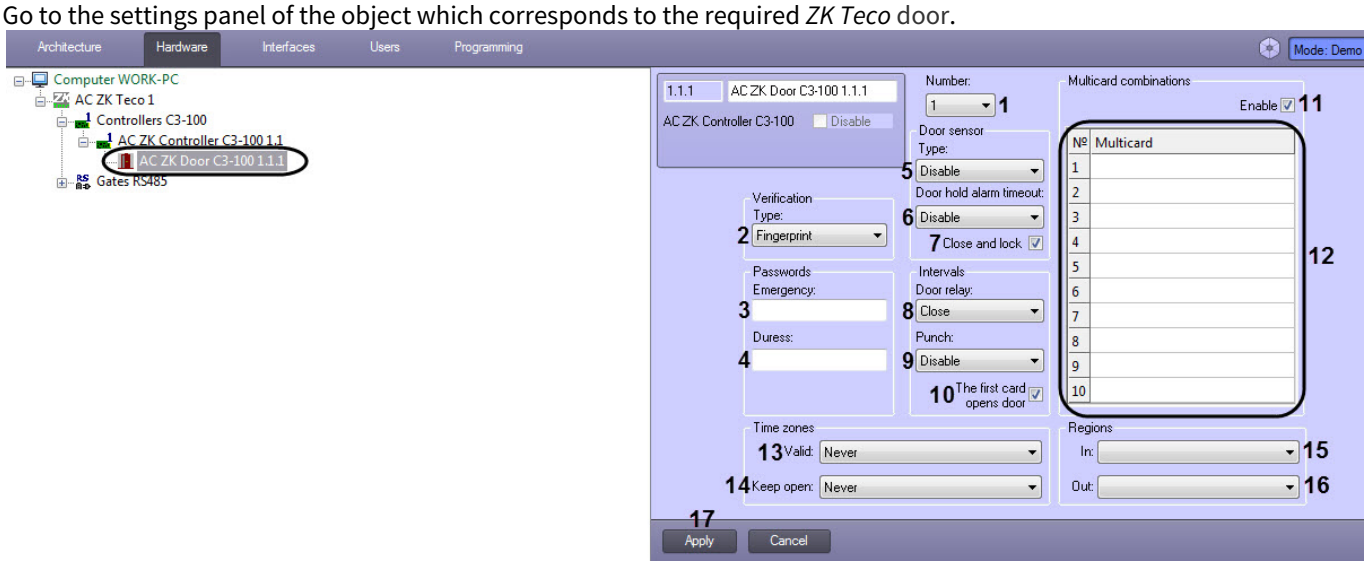
The *ZK Teco* door is configured on the settings panel of the corresponding objects **AC ZK Door C3-100**, **AC ZK Door C3-200** and **AC ZK Door C3-400** which are created on the basis of the **AC ZK Controller C3-100**, **AC ZK Controller C3-200** and **AC ZK Controller C3-400** objects.

Note

- The *ZK Teco* door will be configured using the ZK C3-100 as an example. Other doors are configured in the same way.
- The maximum number of doors for the ZK C3-100 controller is **1**, for ZK C3-200 - **2**, for ZK C3-400 - **4**.

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

1. Go to the settings panel of the object which corresponds to the required *ZK Teco* door.



2. From the **Number** drop-down list (**1**), select the door number.
3. From the **Type** drop-down list (**2**), select the verification type:
   - **Fingerprint** - it is necessary to provide only a fingerprint to verify the user.
   - **Card** - it is necessary to provide only an access card to verify the user.
   - **Card or fingerprint** - it is necessary to provide either a card or a fingerprint to verify the user.
   - **Card and fingerprint** - it is necessary to first provide a card, and then provide a fingerprint to verify the user.
   - **Card and password** - it is necessary to first provide a card, and then enter the password to verify the user.
4. In the **Emergency** field (**3**), enter the password, which is used to open the door without verification.
5. In the **Duress** field (**4**), enter the password which is used to open the door without verification and triggering the alarm event.
6. From the **Type** drop-down list (**5**), select the type of door sensor:
   - **Disable** - the event about the user's pass is generated automatically, as soon as the user has been identified.
   - **Normal open** - the event about the user's pass is generated when the user actually passes closing the door reed switch.
   - **Normal close** - the event about the user's pass is generated when the user actually passes opening the door reed switch.
7. From the **Door hold alarm timeout** drop-down list (**6**), select the time in seconds after which, if the door is not closed, a door hold alarm will be generated:
   - **Disable** - the door holding will not be checked.
   - From **1 sec** to **255 sec** - waiting time for the door to close.
8. Set the **Close and lock** checkbox (**7**) to lock the door after its closing.
9. From the **Door relay** drop-down list (**8**), select the time interval after which the door will be opened upon presenting a card:
   - **Close** - the door will be permanently closed.
   - **Open** - the door will be permanently open.
   - From **1 sec** to **255 sec** - waiting time for the door to open.
10. From the **Punch** drop-down list (**9**), select the time interval for the card presenting.
    - **Disable** - the time for the access card presenting is not limited.
    - From **1 sec** to **255 sec** - waiting time for the access card presenting.
11. Set **The first card opens door** checkbox (**10**) if the first card is required to open the door.

> **Note.**
>
> Access level of first card for the door opening is configured in the panel of user editing in the *Access Manager* interface module (see Specifics of user configuration in ZK Teco integration module).

12. Set the **Enable** checkbox (**11**) to enable the multicard mode.

> **Note**
>
> The multicard mode is used to open the door only after presenting more than one user access card combined in one or more groups.

13. From the drop-down list in the **Multicard** column (**12**) select the required multicard combination.

> **Note**
>
> Up to 10 multicards can be specified for one door.

14. From the **Valid** drop-down list (**13**) select the time zone in which the door is active. If the **Never** value is selected, the door will not operate.
15. From the **Keep open** drop-down list (**14**) select the time zone in which the door will be permanently opened.

> **Note.**
>
> The door will be opened within 1 minute after starting the specified time zone.

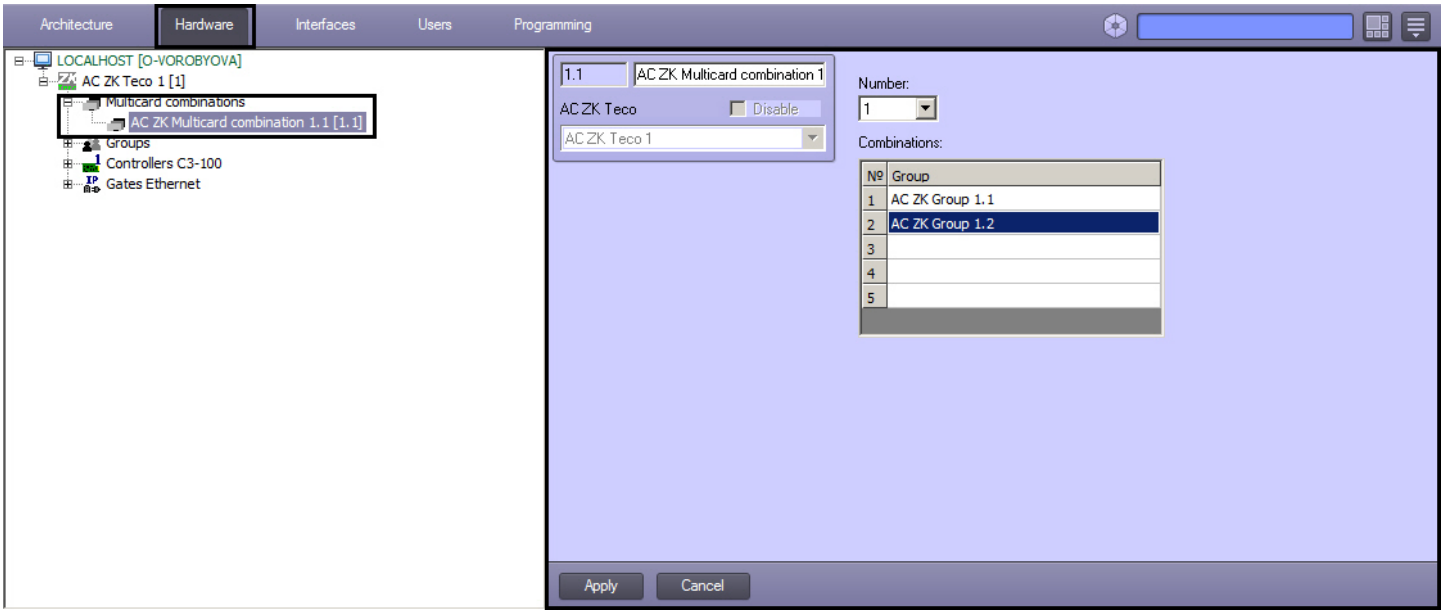
16. From the **In** drop-down list (**15**) select the region located on the door exit side.
17. From the **Out** drop-down list (**16**) select the region located on the door entry side.
18. Click the **Apply** button (**17**).

The *ZK Teco* door is now configured.

3.4 Configuring the ZK Teco multicard combinations

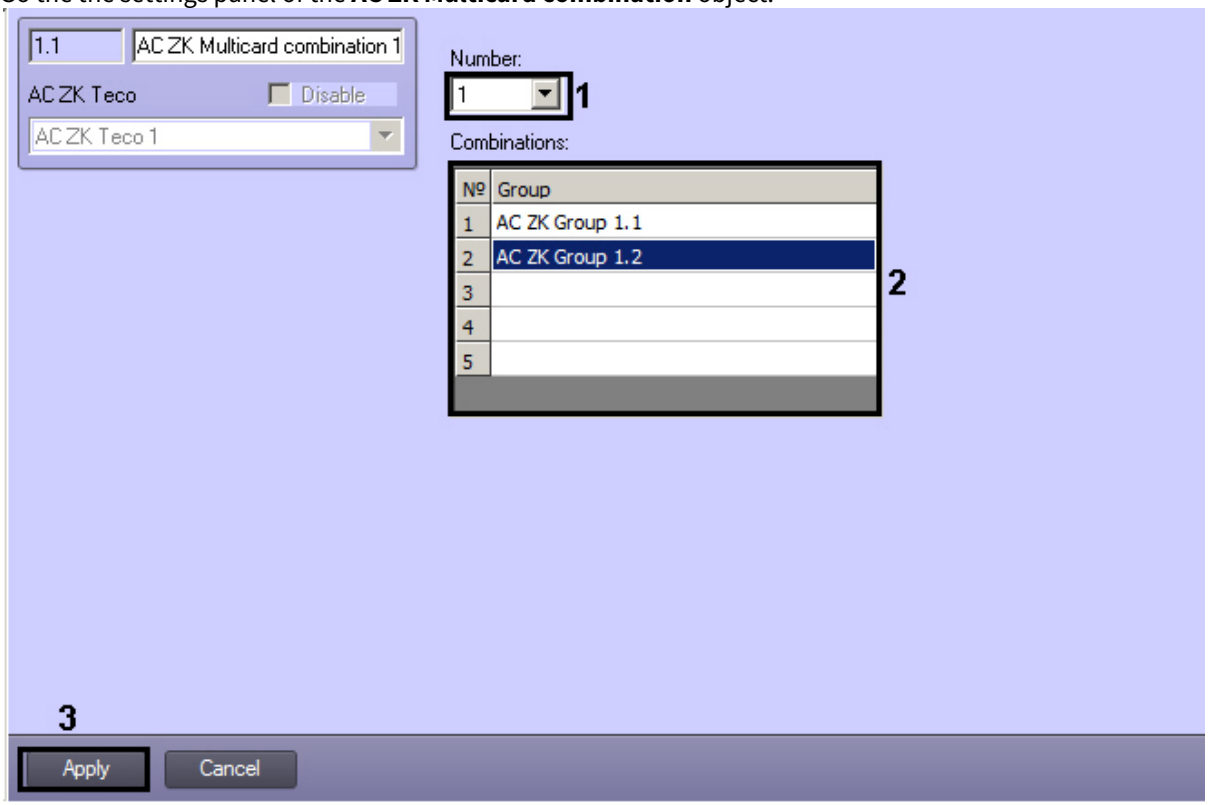
Multicard combination is in use for verifying the door opening by more than one person from different groups.

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.

3.5 Specifics of user configuration in ZK Teco integration module

Additional user settings are configured in the *Access Manager* module (for details, see Access Manager Module Settings and Operation Guide). To do this, in the user editing mode, set the following additional parameters:

1. **Group number** - indicates the number of the group to which this user belongs.

   > **Note**
   >
   > As a result, the group with the specified identifier will be automatically created in *ACFA-Intellect* on the basies of the *ZK Teco* ACS.

2. **First card access level** - indicates the access level of the first user access card.

Additional user settings of the *ZK Teco* integration module are now configured.

4 Working with the ZK Teco integration module

4.1 General information about working with the ZK Teco integration module

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

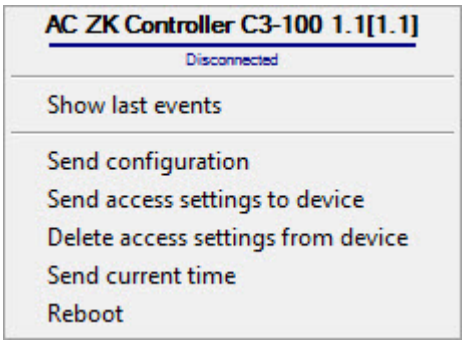
1. **Map**.
2. **Event viewer**.

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.

4.2 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.



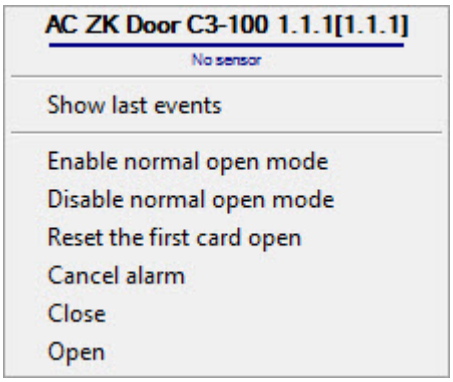
Available commands in the context menu are described in the table.

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.

4.3 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** object.



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.