RGB Technology®
MODERN TECHNOLOGIES

RGB ClockSet

User`s manual

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1 About the program

RGB ClockSet is designed to work with the clocks controlled by means of the LAN interface, manufactured by RGB Technology. Its basic functions include managing the clocks in the network, editing the configuration and settings of individual devices. In addition, the program enables device grouping, as well as resolving IP and MAC address conflicts. In the case of problems with the connection or synchronization of the device, the program offers the possibility of sending an e-mail notification to the indicated e-mail address.

2 Program languages

By default, RGB ClockSet communicates with the user in English.
To obtain the program in a different language version, please contact your local distributor to order a translation.

3 Installation

The RGB ClockSet installation program guides you through the installation process step by step.
The directory into which the program settings are saved:

System	Path
Windows 7, Windows 10	*C:\Program Files (x86)\RGB ClockSet*

4 Program interface

4.1 Start screen / Device list

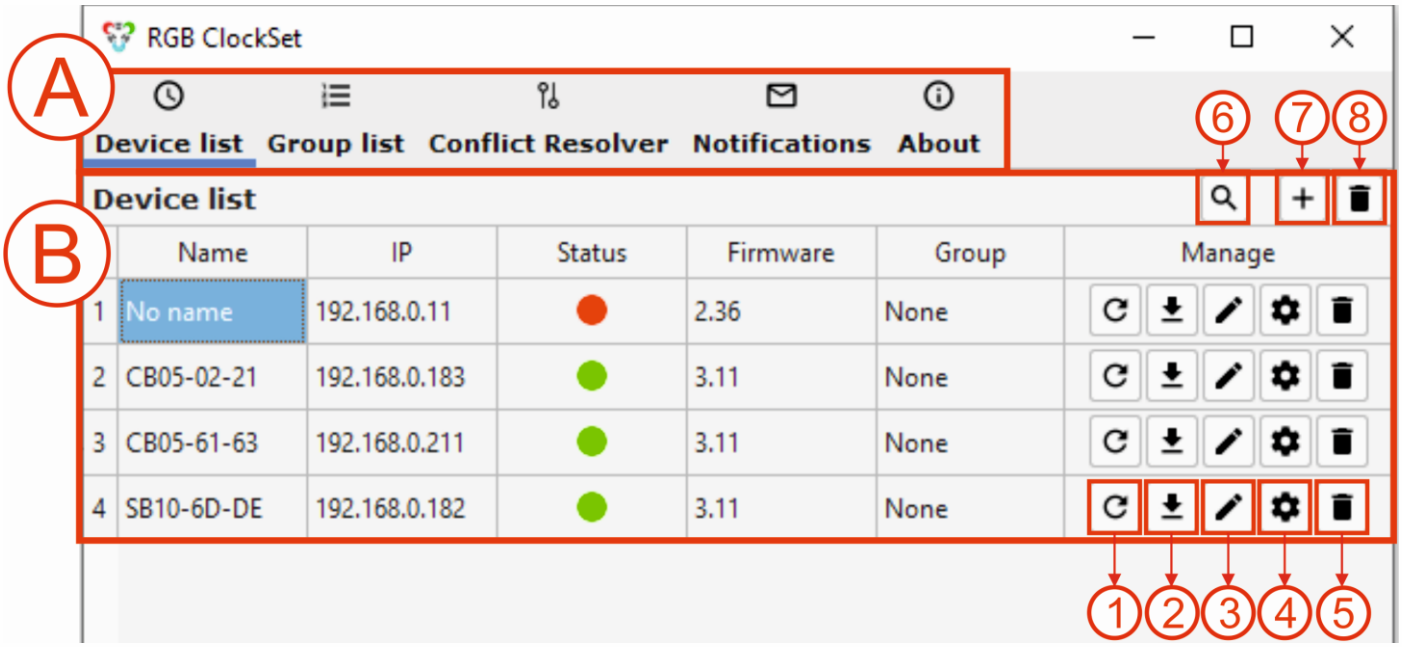


Fig. 1

After starting the program, the main window will open with the list of devices turned on by default:

A. In the upper part of the window, there is a main menu with the access to:
- **Device list** *(Device list)* allowing you to preview the added devices and edit their settings;
- **Group list** *(Group list)* allowing clock grouping and the management of these groups;
- **Conflict resolver** *(Conflict Resolver)* used to change the IP address and the MAC address automatically in the case of several devices with the same addresses;
- **Notifications** tab *(Notifications)* enabling sending e-mail notifications in the case of problems with the connection or synchronization of the devices;
- **About the program** window *(About)* displaying information about the software version;

B. In the lower part of the window, there is a list of the devices that have been added earlier. The following properties are presented for each device:
- **Device name** (*Name*);
- **IP address** (*IP*);
- **Connection status** (*Status*) as follows:
  - No connection to the device or remote access disabled;
  - Device connected, not synchronized;
  - Connection OK;

  When you hover the cursor over a given dot, the information about the connection details will be displayed.
- **Software version** (*Firmware*);
- **Group** *(Group)* to which the device has been assigned;
- **The management tools** (*Manage*), allowing you to, respectively:
  1. Refresh the status of the selected device;
  2. Download the configuration of the selected device;
  3. Edit the configuration of the selected device;
  4. Edit the settings of the selected device;
  5. Remove the selected device from the list.

4.1.1 Search for a new device

To search for a new device, click on the magnifying glass symbol (Fig.1 ref. 6). The "**Authentication**" window will open, in which enter the login and the password for a given device, and then click on the **"Search"** button. The default properties are as follows:

- **Login**: admin
- **Password**: dbps

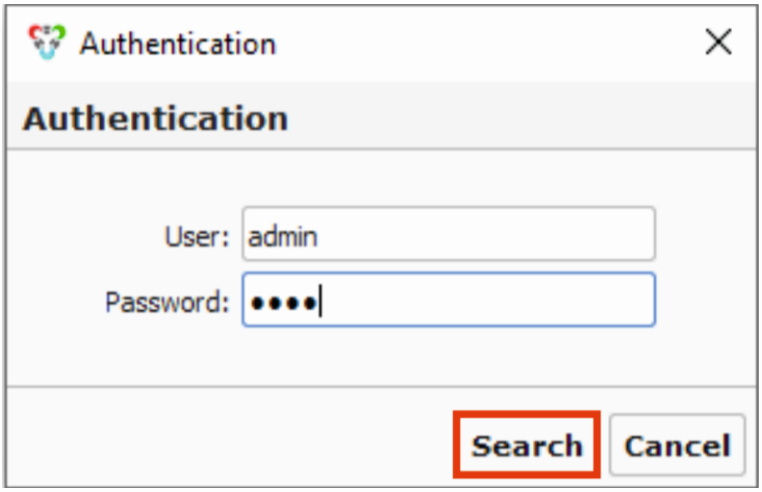


Fig. 2

The **"Dialog"** window will appear in which a list of devices found for the previously entered data will be displayed. Select a device or devices from the list and click on the **"Add"** button to add them to the device list.

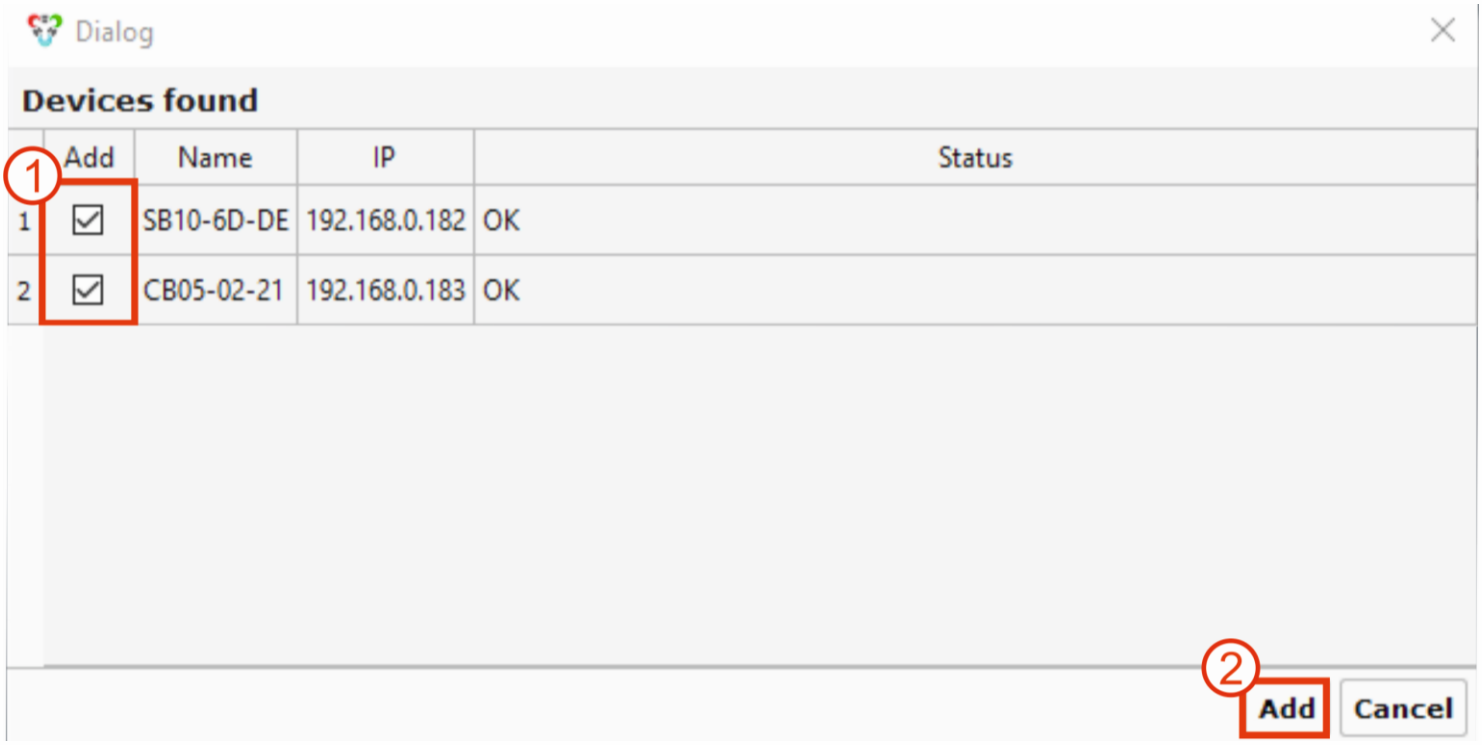


Fig. 3

4.1.2 Adding a device to the list

To add a new device manually, click on the plus symbol (Fig. 1 ref. 7). The **"Add clock"** window will open, in which enter the device IP address, the login and the password. Then press the **"Add"** button. This will add the device to the device list.

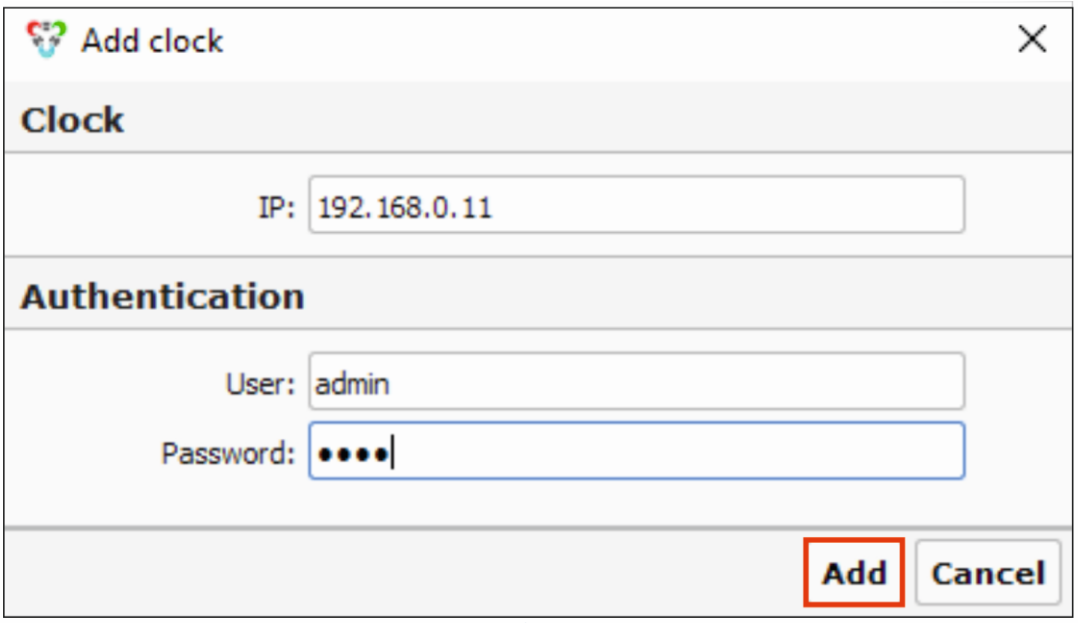


Fig. 4

4.1.3 Removing a device from the list

In order to remove a given device from the list, first check the selected device, which will highlight it in blue, and then click on the recycle bin symbol. This will remove the selected device from the device list.

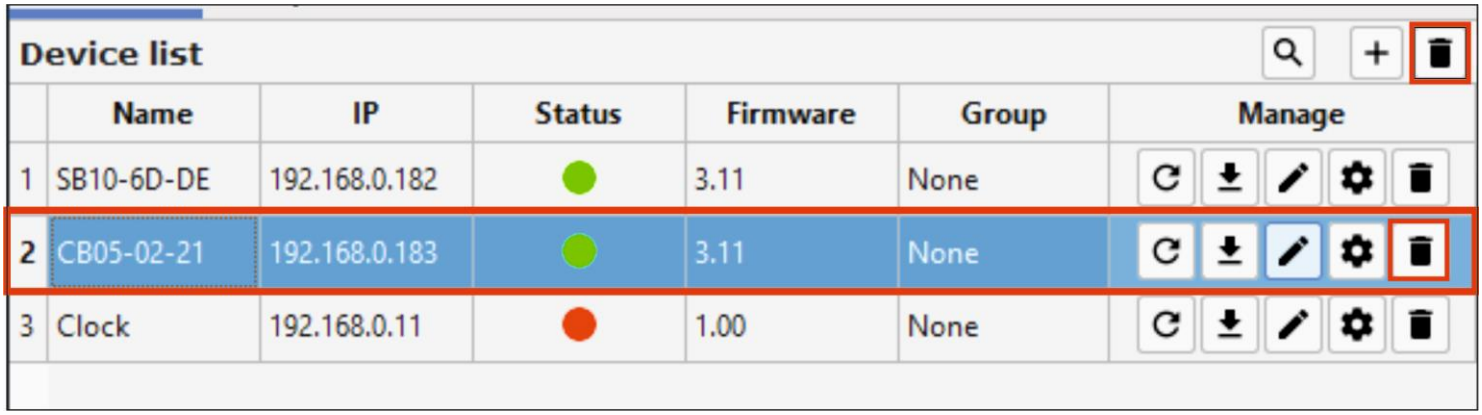


Fig. 5

4.2 Group list

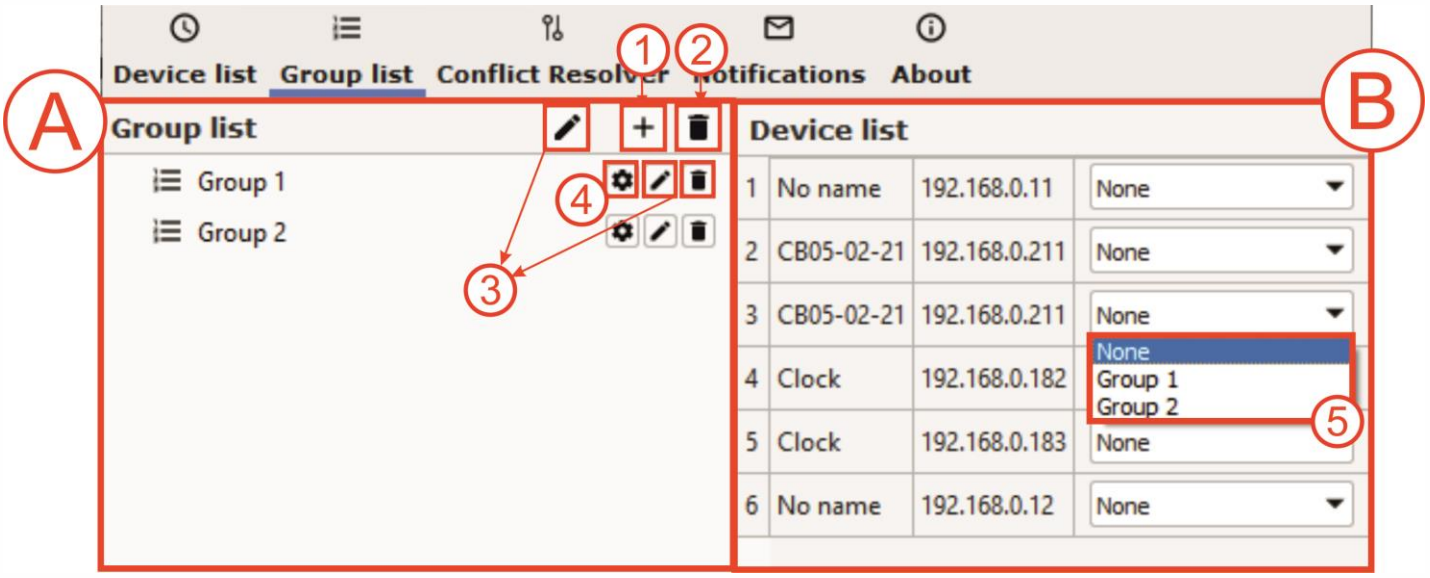


Fig. 6

The **Group list** window is divided into two columns:

- **Group list** (Fig. 6 ref. A), in which there are currently added device groups. Using the buttons, you can:
    1. Add a new device group;
    2. Delete a given device group;
    3. Edit a given device group;
    4. Rename a given device group
- **Device list** (Fig. 6 ref. B), in which there are all added devices. Each device may be assigned to a given group using the drop-down check box (Fig. 6 ref. 5). After the device is assigned to the given group, it will be automatically added to the group list. Sending the settings for a given group will change the settings of each device in the given group.

Notice:

Note that some options are unavailable for certain device series. It is recommended to split the clocks into groups of the same device type. If you try to edit an unsupported option, the following message will appear: "**Incorrect data sent or function is unsupported**".

4.2.1 Creating a new device group

To create a new device group, click on the symbol "**+**" (Fig. 6 ref. 1). The "**Add group**" window will appear. Enter the name of the new group and the type of clocks belonging to it, then confirm by clicking the "**Add**" button. The new device group will be added to the group list. Appropriate devices can now be assigned to it.

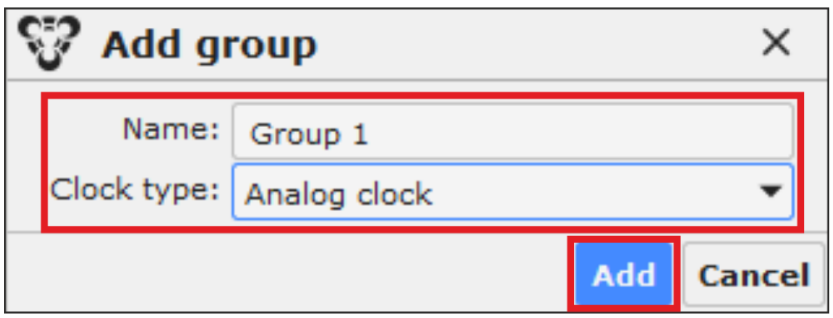


Fig. 7

4.2.2 Deleting a device group

To delete a selected group of devices, select a given group from the list and then click on the recycle bin symbol (Fig. 6 ref. 2). A window for confirming the group deletion will appear in which confirm the operation with the "**Delete**" button. The devices that were assigned to this list will be automatically marked as not assigned to any group.

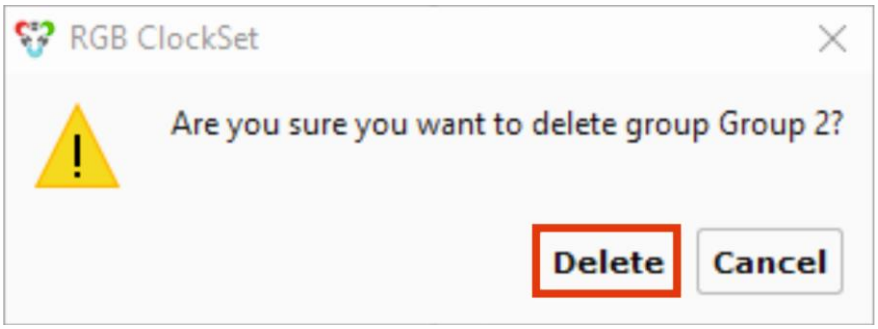


Fig. 8

4.2.3 Editing device group configuration

To edit a given group of devices, select the appropriate group from the group list, and then click on the pencil symbol (Fig. 6 ref. 3). Editing group configuration is possible only if at least one device is assigned to the given group. If there are no devices, a message will appear at an attempt of editing, informing you that the configuration cannot be edited (Fig. 9).

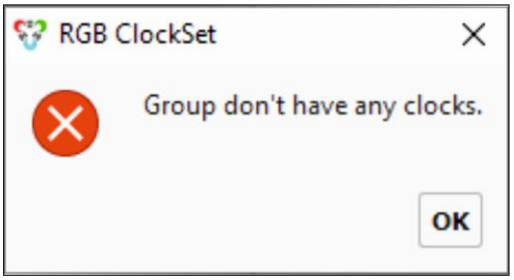


Fig. 9

When editing the configuration of a new group for the first time, the configuration should be downloaded from any device in the given group. To do this, select a given device and then press the "**Set**" button.

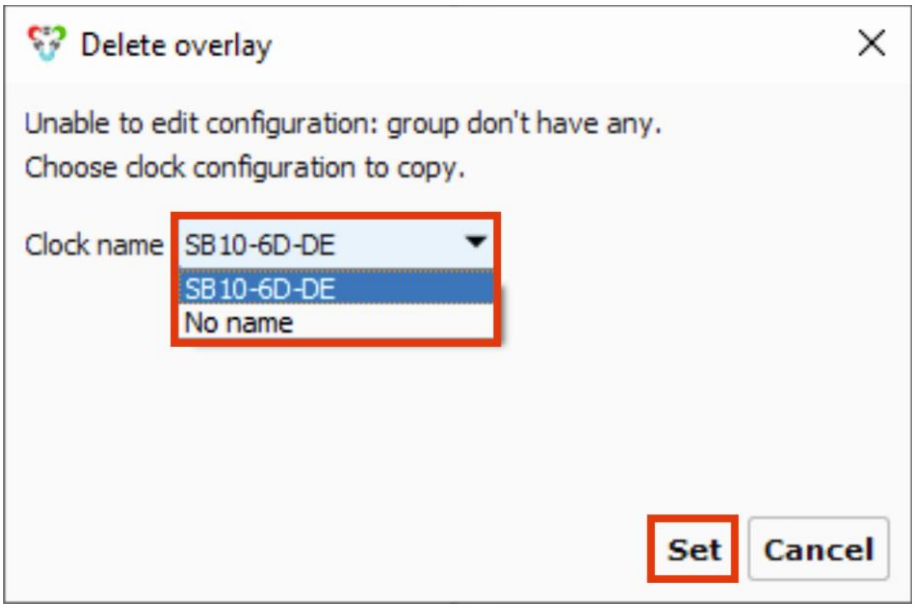


Fig. 10

After the configuration is correctly downloaded and assigned to a given group, a window will appear in which you can edit all settings available for the group. Editing individual parameters of a device group is similar to editing devices and is described in Chapter 6. **(Editing device configuration)**. All settings are saved with the **"Send"** button in the **"Send"** tab. Correct configuration sending will be confirmed with an appropriate message that should be closed with the **"OK"** button (Fig. 11).

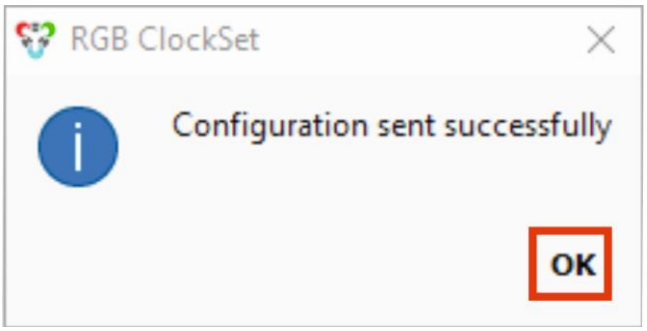


Fig. 11

4.2.4 Renaming a device group

To change the name of a given device group, select the settings symbol from the group list (Fig. 6 ref. 4). In the **"Edit group name"** window, enter a new group name, and then save it with the **"Save"** button.

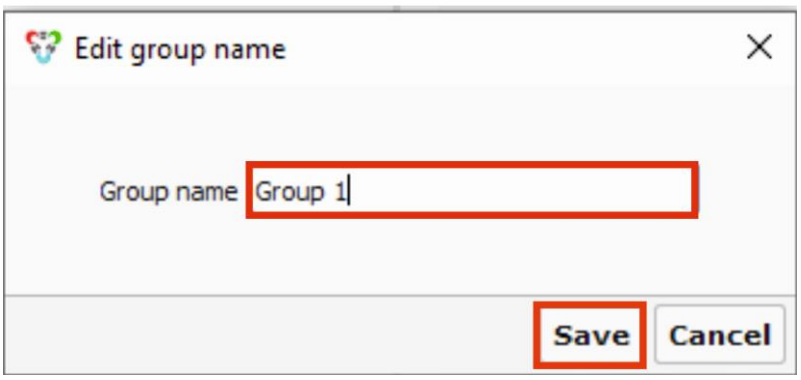


Fig. 12

4.3 Conflict resolver

The conflict resolving tool (*Conflict Resolver*) is used to change the IP address and the MAC address automatically, in the case of several devices with the same addresses;

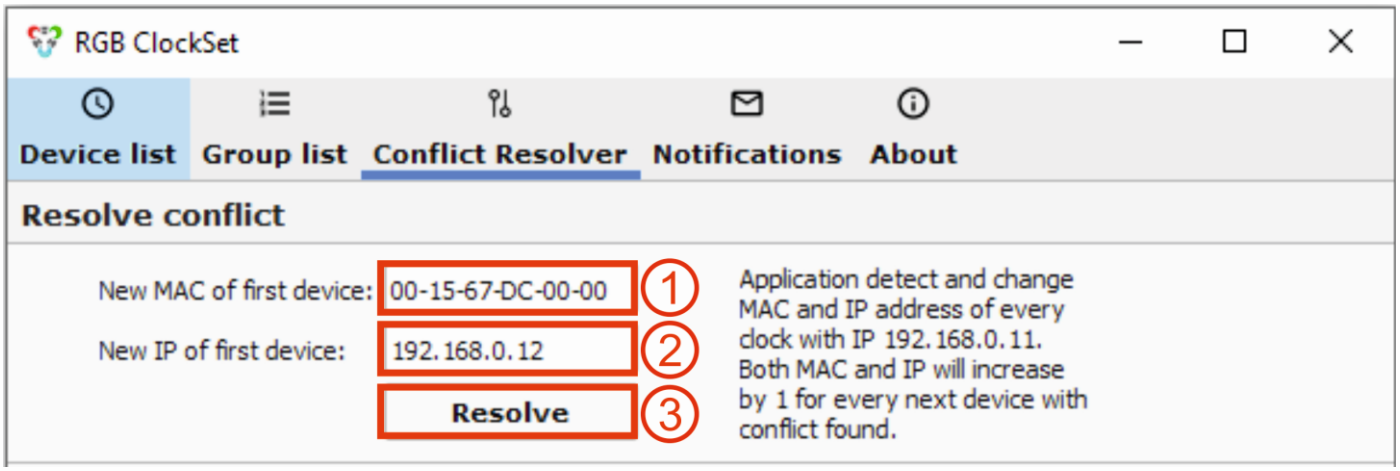


Fig. 13

After pressing the "**Resolve**" button (Fig. 13 ref. 3), a window will appear in which enter the login and the password for the device, and then the application will search for all devices with the IP address 192.168.0.11. If more than one device is detected, the IP address and the MAC address will increase for each of them by 1. The initial values of the new addresses should be completed in the **"New MAC of first device"** field - for the MAC address and in the **"New IP of first device"** field - for the IP address. The end of the address change operation will be confirmed by an appropriate message.

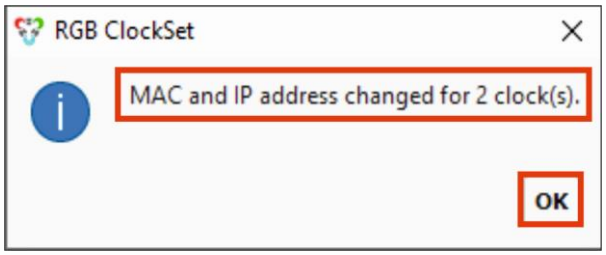


Fig. 14

4.4 Notifications

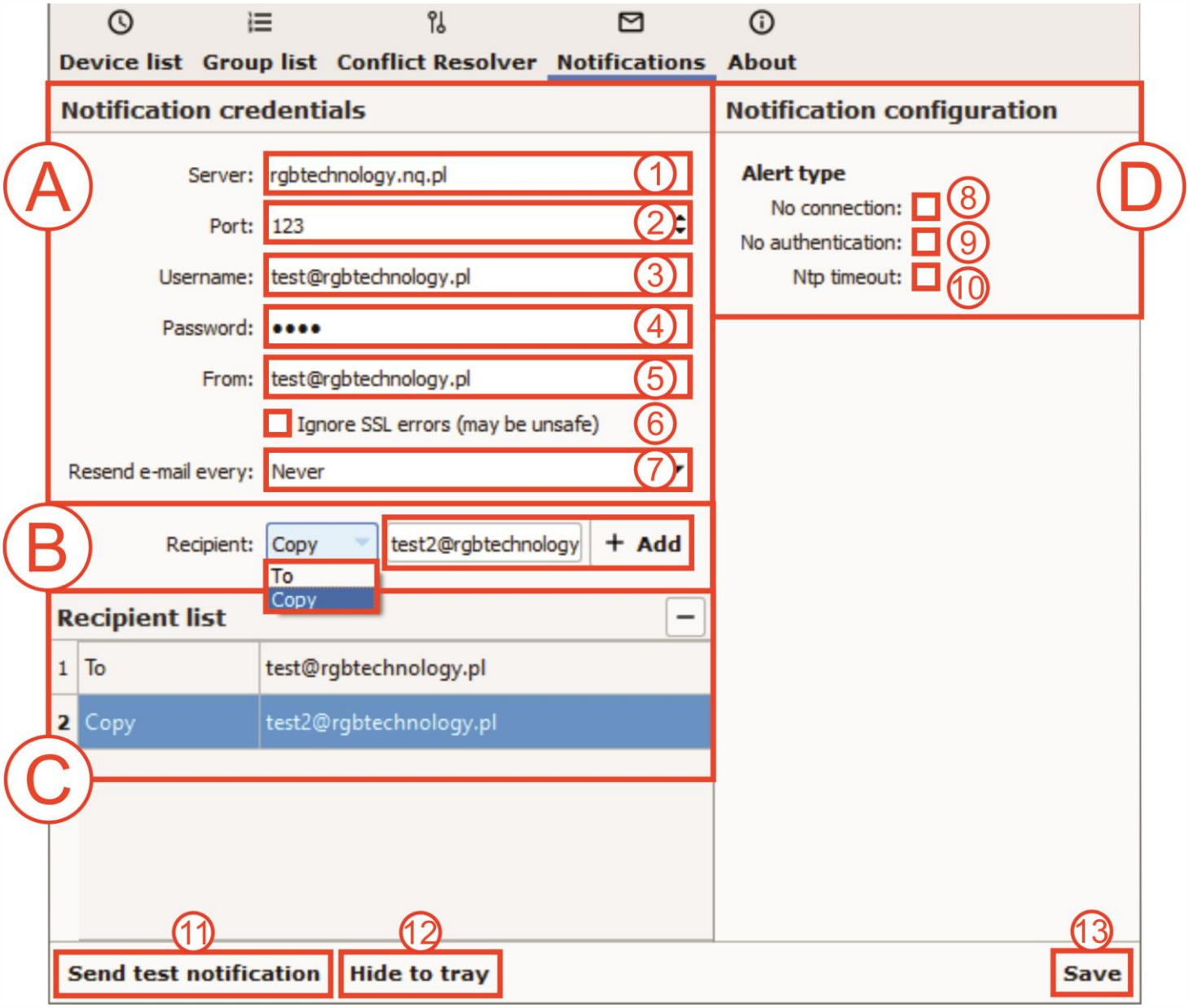


Fig. 15

The notifications tab can be divided into four parts:

A. Credentials (*Notification credentials*) in which you can edit:
   1. **Server address** (Server);
   2. **Server port** (*Port*);
   3. **User's name** (*Username*);
   4. **Password** (*Password*);
   5. **Sender's name** (*From*).
   6. Possibility to ignore SSL errors when sending an e-mail
   7. Possibility to send a recurrent e-mail notification. The available options are as follows: never, every hour, every two hours, every four hours, every eight hours.

B. Adding notifications recipients. From the drop-down field we may choose the option of sending a message to the recipient **("To")** or sending a message as a copy ("**Copy**"). In the next field, enter the recipient's e-mail address and then press the "**Add**" button.
C. List of the added recipients (*Recipient list*) - including the form of sending messages;
D. Configuration of notifications *(Notification configuration)* – possibility to choose if to receive notifications regarding:
   8. Lack of connection with the device (*No connection*);
   9. Lack of authentication (*No authentication*);
   10. Synchronization with the NTP server timed out (*Ntp timeout*).

On the bottom bar of the tab, there are three buttons for:

11. Sending a sample notification (after having completed the data from parts A and B)
12. Minimizing the program to the Windows notification area - Tray;
13. Saving the introduced changes.

5 Editing device configuration

Editing the configuration of a given device is possible only for the devices connected to the Ethernet. To edit the device configuration, select a given clock from the list of devices and press the pencil symbol (Fig. 16), which will open a new window allowing to choose an option:

- Download (*Download*) - used for downloading the configuration loaded to the device and allowing its edition (Fig. 17 ref. 1);
- Edit without downloading (*Edit without download)* - used for editing the device configuration without importing the data assigned to the given device (Fig. 17 ref. 2).

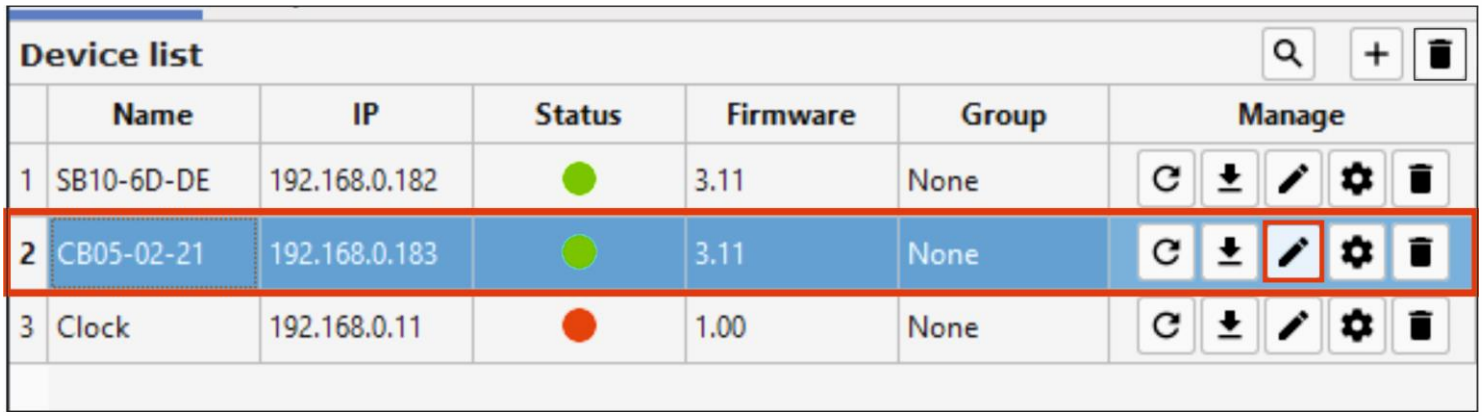


Fig. 16



Fig. 17

After selecting the appropriate option, it will be possible to edit the device configuration, which is divided into four categories
(Fig. 18):

- Time (*Time)* - allows you to select the device location, to choose a time zone and the device synchronization method;
- Displaying *(Display)* - allows you to select the display of time, temperature and date. In addition, it allows you to select the settings of the font, brightness level and the unit of temperature;
- Alarms *(Alarms)* - allows you to configure alarms and their duration;
- Send *(Send)* - is used to send the edited configuration to the device.



Fig. 18

Additionally, it is possible to save the configuration for a given device. To do this, use the "**File**" tab, and , next, the "**Save as**" button. In a new window, give a name and select the destination for saving the "***.rgbcsc**" configuration file. Correct saving will be confirmed with the message "**Configuration saved successfully**".

To load the previously saved device configuration, use the "**File**" tab, and, next, the "**Open**" button. Then, select the "***.rgbcsc**" configuration file and save it with the **"Open"** button. Correct loading of the configuration will be confirmed with the message "**Configuration loaded successfully**".

To download the configuration from the device, use the "**Download**" tab, and, next, in a new window - the "**Download**" button. Correct configuration download from the device will be confirmed with the message "**Clock configuration downloaded successfully**". Remember to confirm each configuration change with the "**Send**" button, in the "**Send**" tab.

5.1 "Time" tab

The figure below shows:

1. *Regional settings*
2. *Remote time synchronization*
3. *Local time synchronization*

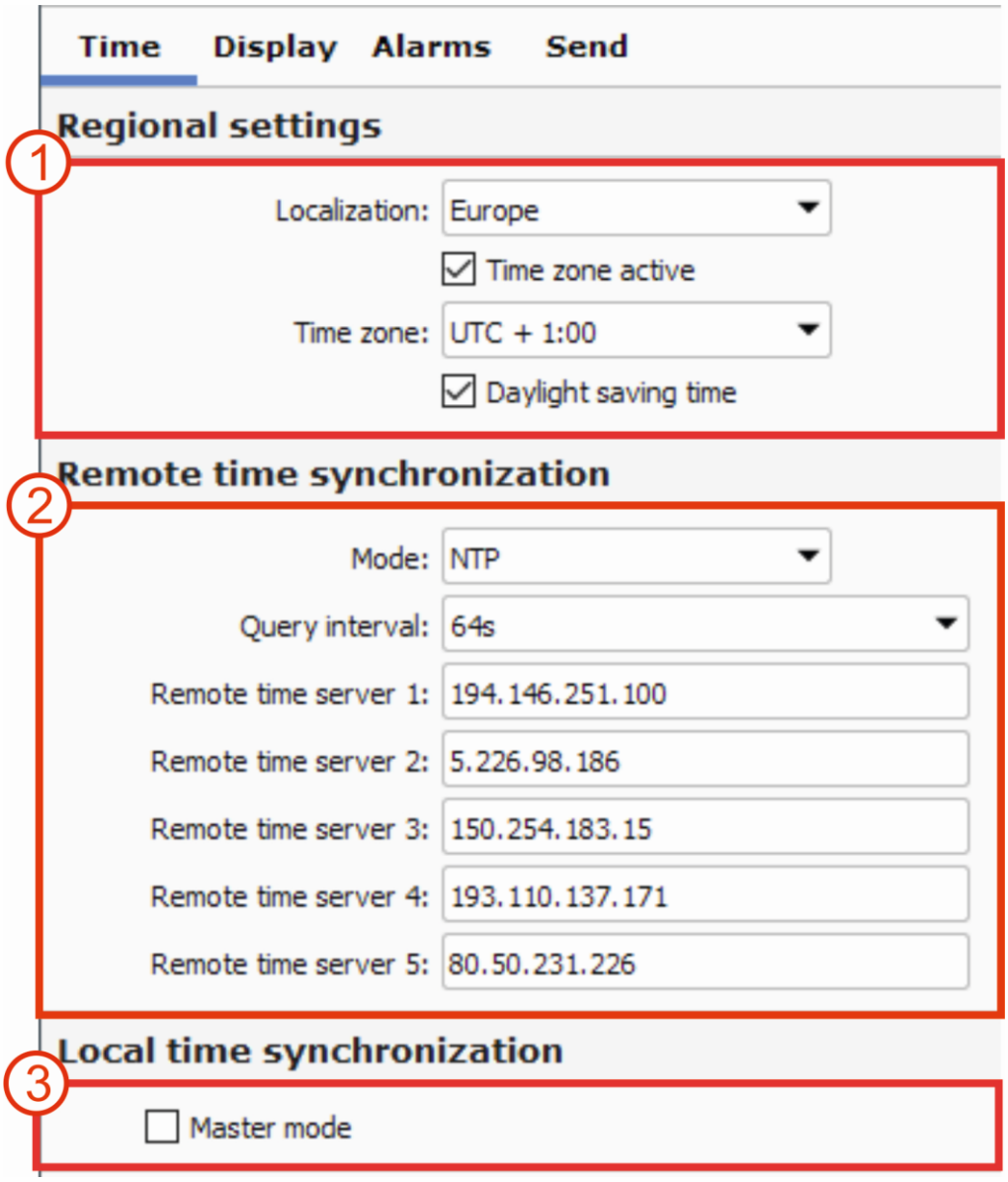


Fig. 19

5.1.1 Regional settings

In the case of regional settings, it is possible to set:

1. Device location - to choose from:
   - Europe,
   - Australia,
   - United States of America,
   - Canada,
   - Israel,
   - Other country.

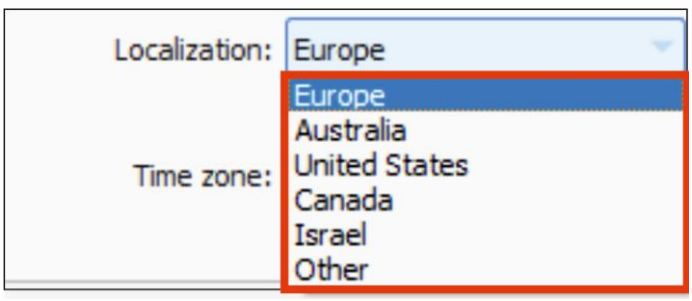


Fig. 20

2. Time zone - edition available only when the option **Time zone active** *(Time zone active)* is selected. It is possible to set the time zone according to the location of a given device from the drop-down menu.

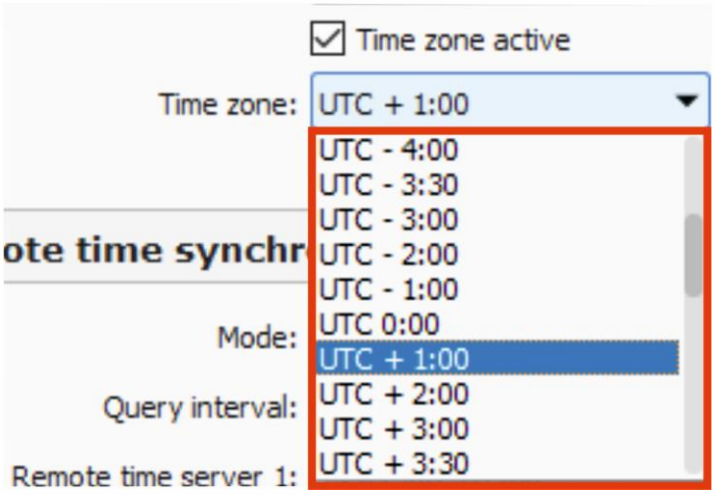


Fig. 21

3. Automatic daylight saving time change - select the option "**Daylight saving time**".

5.1.2 Remote time synchronization

In the case of remote time synchronization, it is possible to choose the method of synchronizing the device.

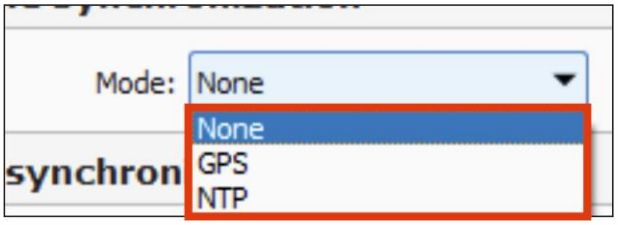


Fig. 22

- *None* - no synchronization;
- GPS - GPS satellite synchronization (connected GPS receiver required);*
- NTP - NTP network synchronization. After selecting this option, additional fields to complete will appear:

1. *Query interval* - determines how often the device will try to synchronize with the server. The choice is made by selecting a specific time interval from the list (Fig. 23).

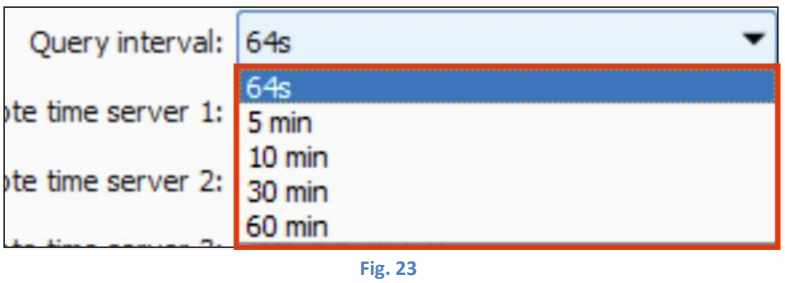


Fig. 23

2. *Remote time server* - in these fields, enter the addresses from which the device will download and update the time and date. It is possible to enter five different addresses. If there is no communication with the first address, after the specified time the device will continue its attempts to connect to the subsequent address until it is correctly synchronized.

* This function is unavailable in segment clocks of the ZAS and ZBS series.

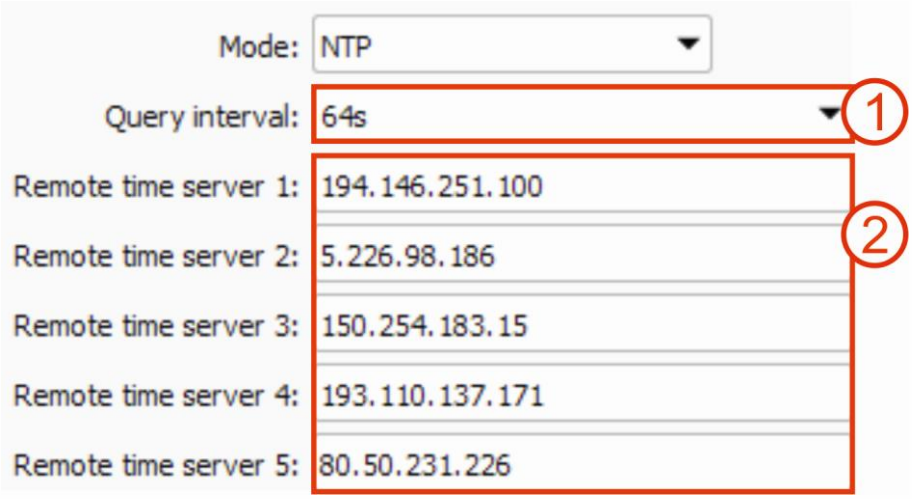


Fig. 24

5.1.3 Local time synchronization

Selecting the **Master Mode** *(Master mode)* option will allow you to set the device as a local time server compatible with NTP (this function is available in the Ethernet option, it does not require the Internet access).

5.2 "Display" tab

The figure below shows:

1. Format *(Format)* - time, temperature and date display settings;
2. Brightness *(Brightness)* - brightness level and profile settings;
3. Thermometer settings *(Thermometer configuration)* - temperature unit and offset settings;
4. Synchronization of displaying *(Display synchronization)* - device synchronization settings in the master/slave mode;
5. Eco mode *(Eco)* - power saving mode settings;
6. Fonts *(Fonts)* - display typeface selection settings;*
7. Import/export configuration *(Import/Export display configuration)*.

* This function is unavailable in segment clocks of the ZAS and ZBS series.

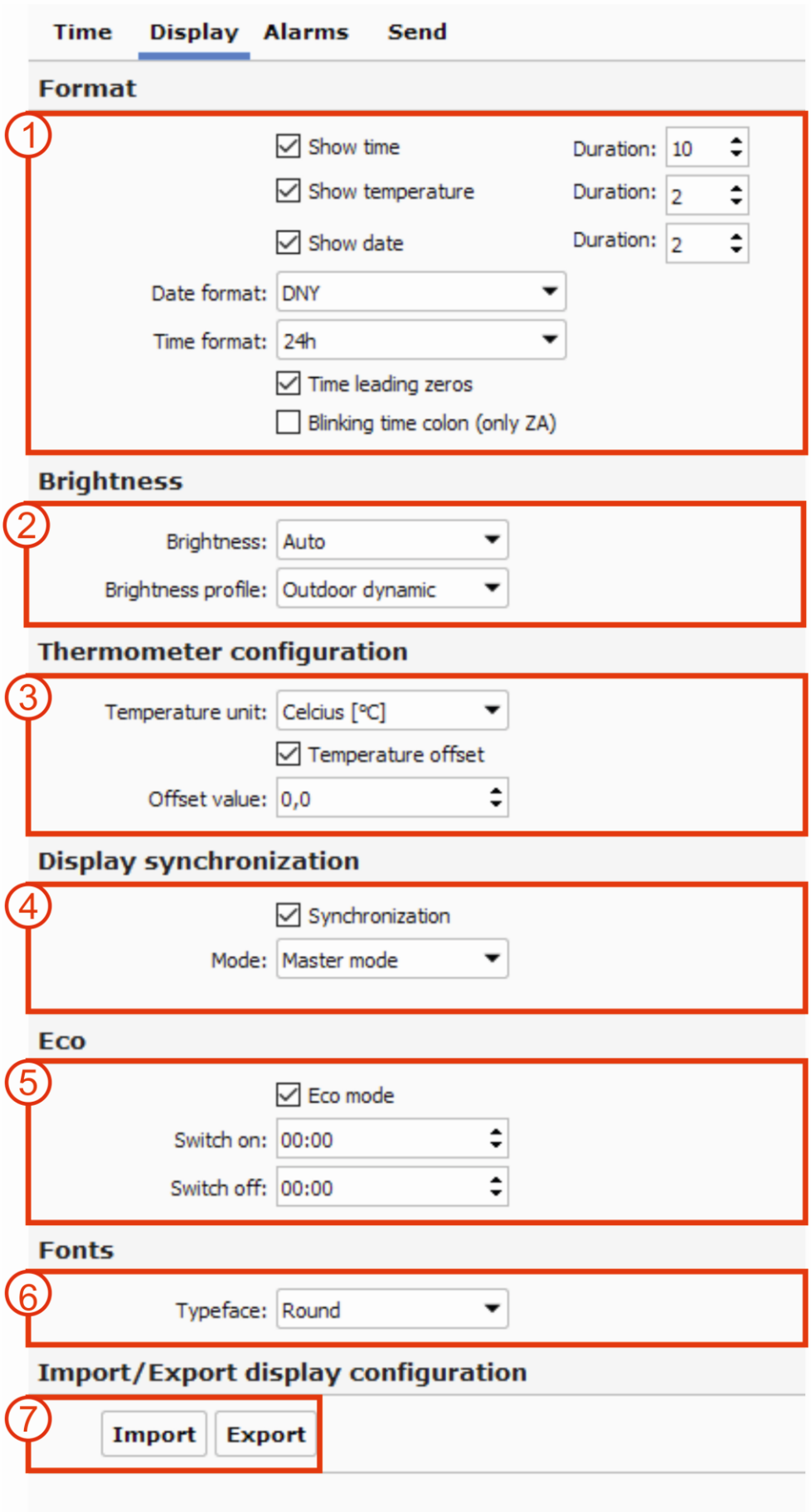

Time
Display
Alarms
Send
Format
1
Show time
Duration: 10
Show temperature
Duration: 2
Show date
Duration: 2
Date format: DNY
Time format: 24h
Time leading zeros
Blinking time colon (only ZA)
Brightness
2
Brightness: Auto
Brightness profile: Outdoor dynamic
Thermometer configuration
3
Temperature unit: Celcius [°C]
Temperature offset
Offset value: 0,0
Display synchronization
4
Synchronization
Mode: Master mode
Eco
5
Eco mode
Switch on: 00:00
Switch off: 00:00
Fonts
6
Typeface: Round
Import/Export display configuration
7
Import
Export

Fig. 25

5.2.1 Format

In the case of the "Format" tab, you may enable or disable the display of the following functions:

1. Time - to make the device display the current time, select the **Show time** option. On the right, in the **Duration** field, enter the duration of displaying the function in the device. The unit used is a second.
2. Temperature - to make the device display the current temperature value, select the **Show temperature** option. On the right, in the **Duration** field, enter the duration of displaying the function in the device. The unit used is a second. For the function to work properly, a device with a temperature probe is required. If there is no temperature probe and the **Show temperature** option is enabled, the device will show the value **--° C** or **--° F**.
3. Date - to make the device display the current date, select the **Show date** option. On the right, in the **Duration** field, enter the duration of displaying the function in the device. The unit used is a second.

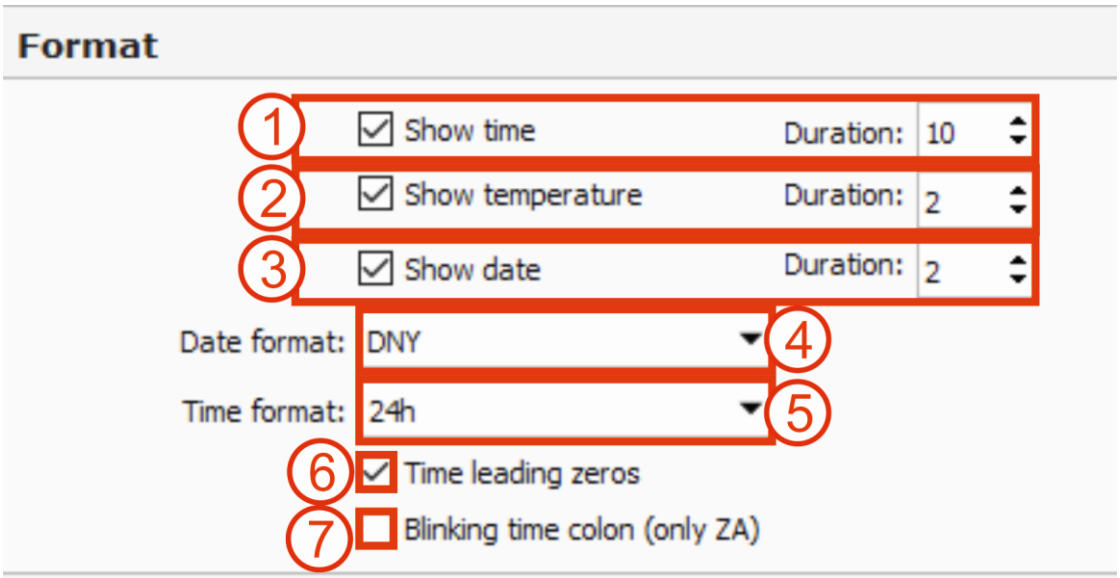


Fig. 26

It is possible to set the format of the displayed date. By pressing the "**Date format"** field (Fig. 26 ref. 4) a selection list will be displayed where you can choose the preferred format of the displayed date. Individual formats depending on the type of device are described in the table below:

	ZA/ZAH	ZB/ZBH
dny	DD-MM YYYY	DD-MM-YY
ndy	MM-DD YYYY	MM-DD-YY
ynd	YYYY MM-DD	YY-MM-DD
ydn	YYYY DD-MM	YY-DD-MM
dn	DD-MM	DD-MM
nd	MM-DD	MM-DD

Table 1

Where:
DD - day,
MM - month,
YY / YYYY - year.

The **Time format** field (Fig. 26 ref. 5) allows you to choose your preferred time display format. The following formats are available to choose from:
12-hour (**12h**) and 24-hour (**24h**).
The **Time leading zeros** box (Fig. 26 ref. 6) allows you to select the display/blanking of time leading zeros.
The **Blinking time colon** box (Fig. 26 ref. 7) – is available only for the devices of the ZA series. Checking this box will cause the colon on the display to blink while the time is displayed.

5.2.2 Brightness

In the case of the "Brightness" tab, you may configure the brightness of the display and activate the automatic brightness control.
The **Brightness** field allows you to select automatic or manual brightness control (Fig. 27). Value "1" is the darkest brightness level and value "10" - the maximum brightness level.
The **Brightness profile** field is available only with automatic brightness control. It allows you to select your preferred auto brightness profile. There are four profiles to choose from (Fig. 28):

- Profile 1: Indoor standard,
- Profile 2: Indoor dynamic,
- Profile 3: Outdoor standard,
- Profile 4: Outdoor dynamic.

The outdoor profiles are characterized by greater brightness than the indoor profiles. The dynamic profiles are characterized by a faster response to ambient brightness changes.

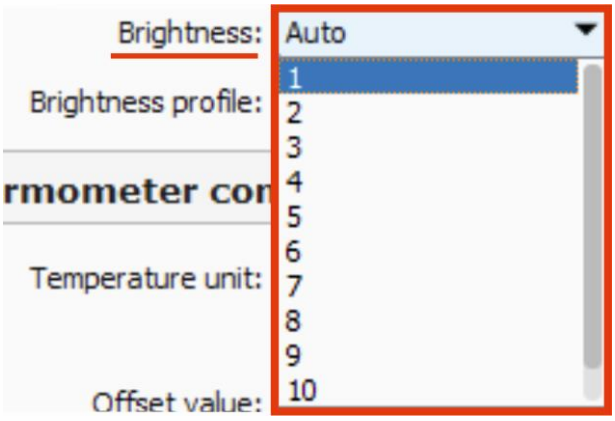


Fig. 27



rys. 28

5.2.3 Thermometer settings

The option is unavailable in segment clocks of the ZAS and ZBS series. In the **"Thermometer configuration"** tab, you can configure the temperature unit and the offset.
The **Temperature unit** field allows you to select a unit of the displayed temperature. The options are degrees Celsius [° C] and degrees Fahrenheit [° F].
The **Temperature offset** field allows you to manually correct the displayed temperature value. To enable this option, select the **Temperature offset** option, and then, in the **Offset value** field, set the value by which the temperature presented on the device is to be changed.

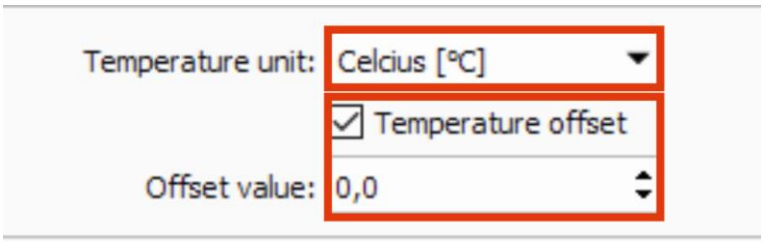


Fig. 29

5.2.4 Display synchronization

The **"Thermometer configuration"** tab allows you to configure the display (content) synchronization, the selection of operating modes and the IP address field of the master clock (required for Slave operating modes).
Checking the **"Synchronization"** option will allow you to select the device operating mode:

- Master mode – master device;
- Slave basic mode – slave device. In this mode, the master clock only sends display information;
- Slave full mode - slave device. In this mode, the master clock sends display information and temperature.

If you select the Slave mode, an additional field will appear in which enter the IP address of the master device (**Master IP**).



Fig. 30

5.2.5 Eco mode

In the "Eco" tab, it is possible to switch on the device in the ECO mode, which allows to reduce power consumption. Its purpose is to switch the device on and off at a specified time. When you check the **"Eco mode"** option, two fields will be displayed that allow you to select the device to be switched on **(Switch on)** and switched off **(Switch off)** at the specified time.

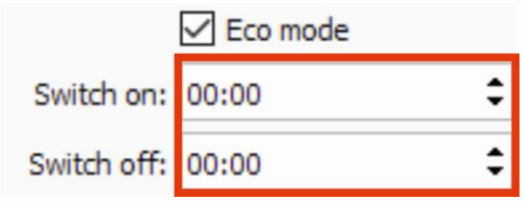


Fig. 31

5.2.6 Fonts

The option is unavailable in segment clocks of the ZAS and ZBS series. In the "Fonts" tab, you can choose a font typeface for a given device. There are two typefaces to choose from (Fig. 32):

- Round (*Round*),
- Sharp (*Sharp*).

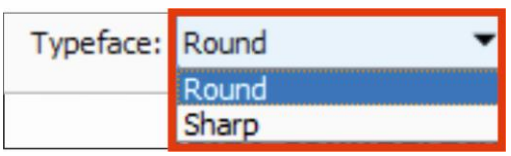


Fig. 32

5.2.7 Import/export configuration

The "Import / Export display configuration" tab allows you to save the currently modified configuration **(Export)** and to download the previously saved configuration **(Import)**. Pressing the **"Export"** button will open a window in which you should select a location to save the configuration file and give it a name. Pressing the **"Import"** button will open a window in which you have to find a given ***.xml** configuration file, and then click on **Open**. The correctly downloaded configuration will be confirmed with the message **"Configuration import successfully"**.

5.3 "Alarms" tab

The option is unavailable in segment clocks of the ZAS and ZBS series. The device allows the configuration of 30 alarms via the built-in relay. In the **"Alarms"** tab, you can manage alarms, set their duration and frequency. The alarm configuration options are described below:

1. *Active* - is used to switch a given alarm on or off;
2. *Time* - is used to set the exact time of a given alarm;
3. *Duration* - is used to set the duration of a given alarm. The minimum alarm duration is 1 second - the maximum is 59 seconds;
4. *Mode* - is used to choose the days on which a given alarm is active. To manually choose the days, select the **"Selected days"** option from the selection field (Fig. 33 ref. A), and then check the appropriate days (Fig. 33 ref. 5). In the case of a daily alarm, select the **"Everyday"** option (Fig. 33 ref. B) from the selection field (Fig. 33 ref. A). This will automatically check all days of the week.

In order to disable all alarms, click on the crossed-out clock icon (Fig. 33 ref. 6).

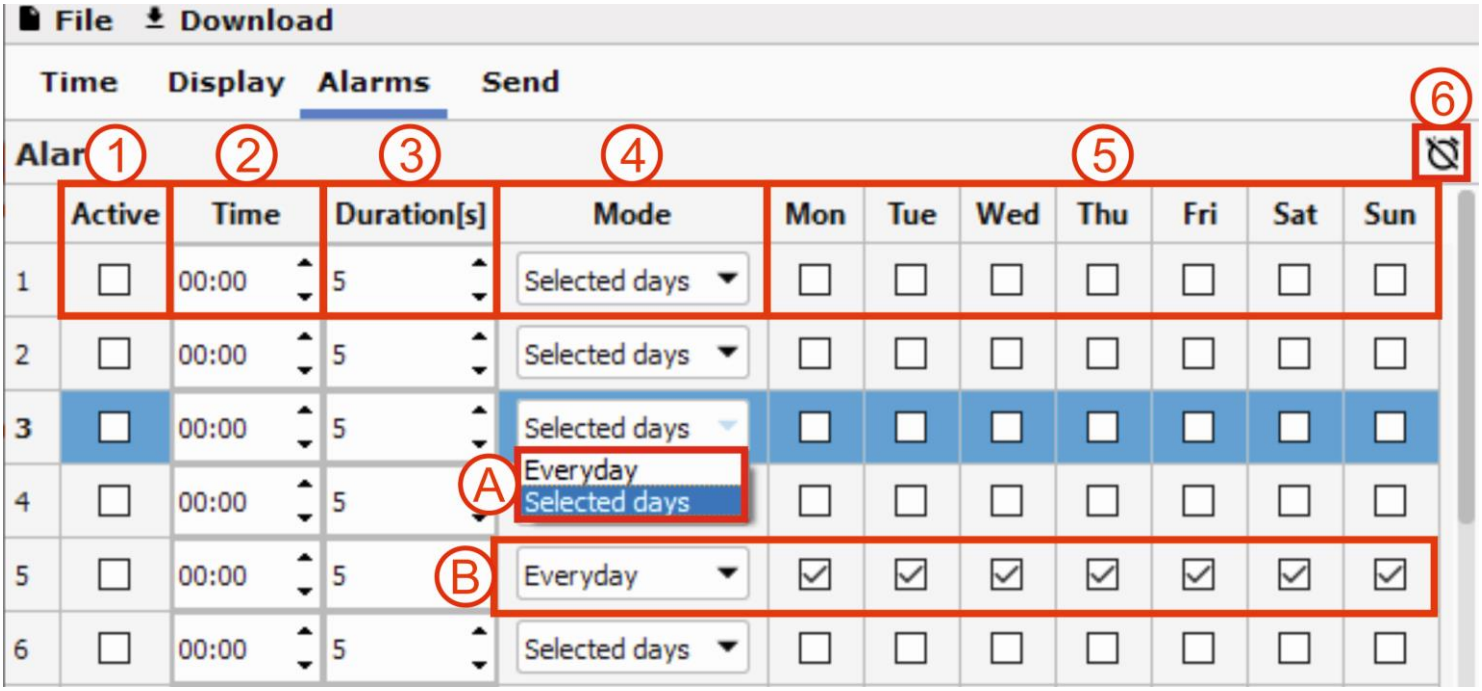


Fig. 33

5.4 "Send" tab

The "Send" tab is used to send the previously modified configuration. In order to send it, select a clock from the list, and then click on the **"Send"** button.

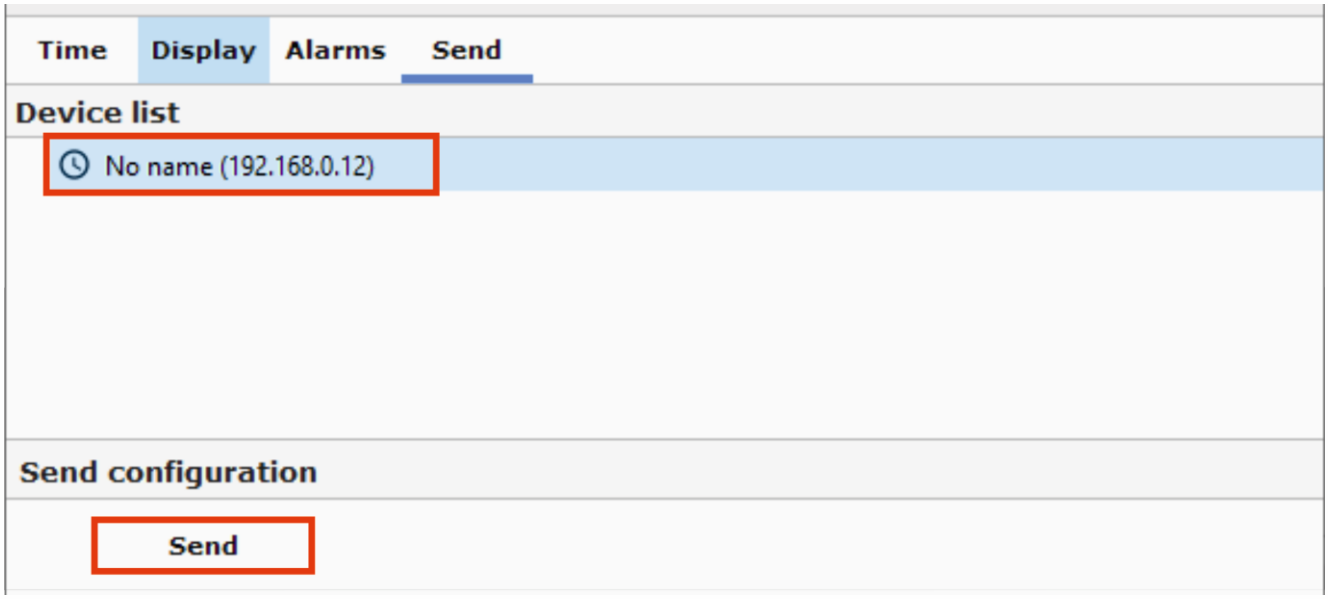


Fig. 34

6 Editing advanced device settings

Editing the settings of a given device is possible only for the devices connected to the Ethernet. To edit the advanced device settings, select a clock from the list of devices and press the settings symbol, which will open a new window with the option of editing the following device settings:

1. Changing the login and the password for authentication for the ClockSet program – the option available in the **"Authentication"** tab. Confirm the changes by clicking on the **"Set"** button.
2. Changing the device name - the option available in the **"Clock name"** tab. Confirm the changes by clicking on the **"Send"** button.
3. Changing the network settings – the option available in the **"Network"** tab. You can change the IP address, the subnet mask *(Subnet mask)*and the gateway *(Gateway)*. Selecting the **DHCP client** option will automatically assign the above parameters, without the possibility of manual change.
4. Changing the device password - the option available in the **"Change password"** tab. In order to change the password to access the device, complete the form (**Old password**) with the current password and complete the other two forms with a new password.

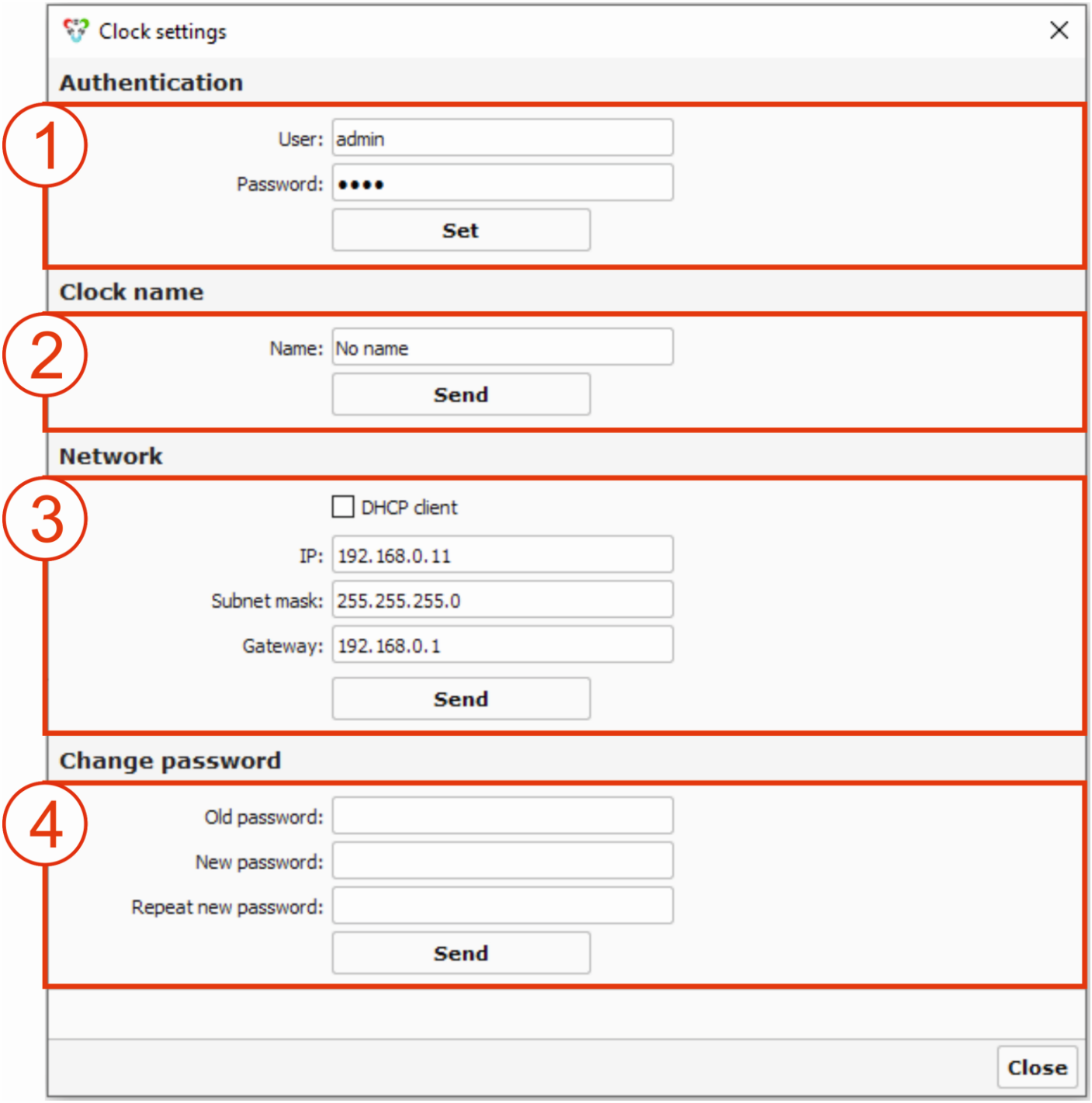

Clock settings
Authentication
1
User:
admin
Password:
Set
Clock name
2
Name:
No name
Send
Network
3
DHCP client
IP:
192.168.0.11
Subnet mask:
255.255.255.0
Gateway:
192.168.0.1
Send
Change password
4
Old password:
New password:
Repeat new password:
Send
Close

Fig. 35