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1 Installing, Updating and Uninstalling

Installing application to computer

To install the application to your computer, just run the setup file and then follow the instructions provided by the installer.
Connect the required equipment (GSM modem, hardware control, etc.) to your PC and install the software required for its operation (drivers).
That software is normally available for downloading on the equipment manufacturer's website.

It is recommended that the software is installed and configured by a qualified professional.
Once connected to the Internet, you can check whether updates for the application are available (menu: "About").

By default, all user passwords upon installing the application are blank!

Updating application

We highly recommend you to routinely check for available updates through the "Check for updates" in the "About" window. This requires an Internet connection. If an update is available and you choose to proceed, the program will automatically backup your data (backup .* files), export all objects to the file BackupObjects.txt, close the application and launch a special update utility. If you agree to download and install the application, click the respective button. Once successfully updated, the appliction will restart automatically.

Uninstalling application from computer

To remove the application, open the Control Panel, then proceed to Add / Remove Software. Select the application and then click Remove.

2 The beginning of the work

You are highly recommended to review all sections of this manual prior to using the software!

<u>When using GSM modem:</u>

1. Connect the modem to the PC, install the drivers for it and configure the modem in the operating system.
2. On the "General" tab in the application's settings window, configure the basic settings.
3. On the "Modem" tab in the application's settings window:
    - Select the modem on the list to the left and then set its port number.
    - Select the operating mode for the modem (SMS, voice call, delivery report).
    - Enter the short number for obtaining the balance from your operator (may be empty).
    - Click the "Check" button to check the settings. If you see the "Modem works properly" window, it means the modem has been connected successfully.
4. On the "Keywords" tab in the application's settings window, enter the required values in all the fields.
5. On the "Users" tab tab in the application's settings window, set up the Administrator password and

add other users who are allowed to access the application.

6. Click the "Save" button in the application's settings window.

7. Create a new object (click the + button on the main toolbar); the program will tell you which fields are mandatory. Add the required settings and commands for the object (see manual).

8. The applocation is now ready to handle incoming SMS and sending commands to the device.

9. To test-drive the application, you can use any mobile phone instead of the device or Ctrl+Alt+E for generating messages (see manual).

When using hardware control:

1. Connect the hardware control to the PC using a COM port.

2. Study the manual at "Configuring GPRS/COM/POP3", section COM, and carry out all the actions provided in it.

3. On the "General" tab in the application's settings window, configure the basic settings.

4. On the "Keywords" tab in the application's settings window, enter the required values in all the fields.

5. On the "Users" tab tab in the application's settings window, set up the Administrator password and add other users who are allowed to access the application.

6. On the "Global Parameters" tab, import codes Ademco Contact ID from file ContactID_en.csv (if they are not in the list).

7. Click the "Save" button in the application's settings window.

8. Create a new object (click the + button on the main toolbar); the program will tell you which fields are mandatory. Add the required settings and commands for the object (see manual). You can also create an object from a received message (see manual).

9. The application is now ready to handle incoming messages from the hardware control and sending commands to the device (if supported by the hardware).

10. To test-drive the application, you can use Ctrl+Alt+E for generating messages instead of the device (see manual).

When using the Internet for handling data from GPS trackers/Security systems:

1. Connect your PC to the Internet. The PC must have a global static IP address, which GPS trackers will use for sending data.

2. Study the manual at "Configuring GPRS/COM/POP3", section GPRS, and carry out all the actions provided in it.

3. On the "General" tab in the application's settings window, configure the basic settings.

4. On the "Keywords" tab in the application's settings window, enter the required values in all the fields.

5. On the "Users" tab tab in the application's settings window, set up the Administrator password and add other users who are allowed to access the application.

6. Click the "Save" button in the application's settings window.

7. Create a new object (click the + button on the main toolbar); the program will tell you which fields are mandatory. Add the required settings and commands for the object (see manual). You can also create an object from a received message (see manual).

8. The application is now ready to handle incoming messages from GPS trackers.

9. To test-drive the application, you can use Ctrl+Alt+E for generating messages instead of the device (see manual).

3   Main window

Logon screen

Once the application is launched, you will be prompted to select a user and enter the password.

Only one user is registered in the application upon installation: **Admin with a blank password (i.e. nothing should be entered in the Password field).**
We recommend you to add all users allowed to access the application and changed the Admin's password immediately upon the installation. You can also rename certain users; e.g., Admin to Administrator (see Settings).

The application can be launched from the command line with a specific user provided (parameter: -u<UserName>). In this case, the user's password must be blank.
We don't recommend you launching the application this way for Administrator.

Main window

The application's main window includes:
1. Toolbar - allows you to quickly run all major commands.
2. Status bar - sits at the very bottom of the window; displays current information for the GSM modem.
3. Objects - lists registered objects; Administrator is allowed to edit this list.
4. Messages - incoming and outgoing messages registered in the application.
5. Cards - objects presented as cards.
6. Statistics - statistic information on the application's performance.
7. Map - map window for tracking mobile objects or displaying static objects.
8. Schedule - events for running commands automatically at specied time.
9. Forward - message forwarding list settings.

In all the lists, to call the context menu, simply right-click on the respective object.

Clicking on an object displays basic information about the object:
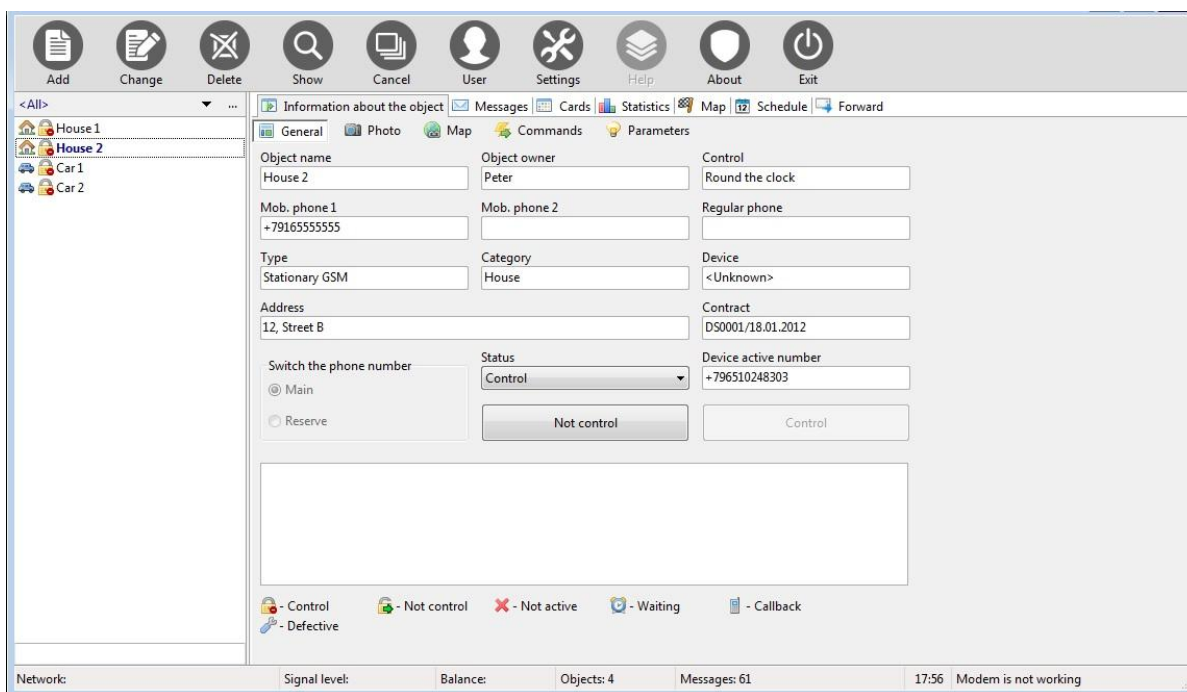
The application's toolbar is the main control.
The toolbar is located at the top of the main window. You can access the tools on the toolbar with the mouse.
Hover the mouse pointer over the required tool and then click on it.

Underneath the object list, there is an object search field. Type in the text and then press Enter on the keyboard. The search runs through the following fields: object name, owner name, owner address, owner phone number, device phone number, contract.
Upon completion, all objects meeting the search criteria will be highlighted on the list.

Available commands (left to right):
1. **Add new object** - with this command, you can add a new object to the list of registered objects.
2. **Edit selected object** - with this command, you can edit the parameters of the selected object or group of objects (see more in section Objects)
3. **Delete selected object** - with this command, you can delete the selected object.
4. **Show messages for selected object** - this command shows only messages for the selected object in the message window. Switching to a different object updates the message list and displays only the messages that belong to the selected object.
5. **Clear message filter** - cancels filtering messages for selected object only. Running this command resets the message window to displaying the full message list.
6. **Switch user** - allows switching current user without closing the application (e.g, for yielding to another operator)
7. **Configure application** - opens the Settings screen.
8. **Display help.**
9. **Show information about software** (version, license type, current **Hardware ID** value)
10. **Exit from application upon confirmation.**

The application's status bar displays:
1. Current status of GSM modem (if connected)
2. Number of objects in the list.
3. Current message count.
4. Current time (clicking pops information on current date)

"Network" field - displays GSM network name. Matches the network name set in the SIM card installed in the GSM modem. If the applicaion is used by multiple modems, the status bar will rotate information on all the modems.

"Signal Level" field - displays current signal strength. The best signal quality value is 100%.

"Balance" field - displays current balance available for the SIM card installed in the GSM modem. The balance check is requested when the application is launched and then every 5 minutes as the application is running. You can set the balance check command in the modem Settings . A balance check command takes relatively long time. During that time, the modem is not available for running other commands; therefore, we recommend running the balance check only when it is really necessary.

The last field on the Status bar displays current status of the GSM modem. If the modem is operating, the bar displays text: "Modem works normally". If any errors occur when using the modem, they are displayed in this field. To interpret the errors returned by the modem, please refer to the user guide for your GSM modem. To resolve any issues with the modem, you may want to try disconnecting it from the PC and then connecting it back.

Service information:

[A] - automatic commands enabled.
[WEB] - internal web server running.
[WEB SSL] - internal web server running with data encryption over SSL connection.
[POP3] - parsing incoming email messages enabled (see "Configuring POP3").
[COM] - parsing serial port messages enabled (see "Configuring COM").
[GPRS] - parsing GPRS (TCP/IP) messages enabled (see "Configuring GPRS").
[TLGRM] - including the processing of commands from the Telegram accounts (for details, see "Forward".).
[TCPSrv] - TCP/IP text packet processing server is enabled.

If you press right mouse button on the status bar of the main window, you will see a popup menu that allows on/off [GPRS] and [COM].
Pressing F9 forces refreshing information on the status bar.

4 Using the program

This section contains detailed instructions on using the application.

4.1 Roles of the users

Administrator

The **Administrator** role is provided for configuring the application and editing the object list.
We don't recommend giving the Administrator role to a security officer on duty.

When launching the application as Administrator, you can enable or disable executing auto commands. When executing auto commands is enabled, all the auto commands defined in the objects will start executing immediately when the application starts and then according to the schedule. However, this isn't necessary at all times; especially when you are configuring the application. The application doesn't

"remember" this setting, so it is effective only until the next user logon.

Operator

The **Operator** role is provided for using the application as a security officer on duty at a centralized security office. This mode doesn't allow editing the object list and configuring the application. This role does allow using a blank password.

By default, all user passwords upon installing the application are blank !

4.2   Settings

The Settings screen includes six tabs.

1. General

You can enable/disable alarm notifications. To avoid overloading the data file, which also contains all the messages, and to ensure high performance, we recommend you to define a message storage period. All messages older than the specified age will be purged.

If necessary, you can enable sound notification of each incoming message.
The "Pause between sending messages" parameter defines the delay in seconds between sending serial SMS messages. Some mobile operators have restrictions on this parameter. Just play with it to define the best value. The less the value is, the quicker the messages will go.
"Waiting SMS in response to a voice call to the object" - allows using the mode, when after placing a voice call to the object for checking connection with it (see Objects) the system waits for a reply SMS with a special keyword (specified in Keywords).
"Calling owner if no connection with object" - when the program detects loss of connection with object (see Objects), it can place a voice call to the owner to notify him of the alarm.
"Auto Backup" - if enabled, the program automatically backs up the data once every 24 hours in the application's Backup folder. The backup interval can be changed in config.cfg. If the database is large, and copying it takes too long, we recommend disabling including the DB in the backup (see config.cfg). Backups are stored in the last 3 months.
"Display tab "Map" - toggles the Map tab in the main window.
"Display tab "Schedule" - toggles the Schedule tab in the main window.
"Display tab "Forward" - toggles the Forward tab in the main window.
"Use GPS coordinates filter" - toggles GPS coordinates filter. When the filter is enabled, the program ignores points with identical coordinates and displays only the first points with zero speed.
"Show buttons headlines on the toolbar" - toggle button headlines on the main toolbar. Clear this option for a more compact appearance of the tools on the bar.
"Control by the operator" - allows selecting one of the operator control modes.

The following modes are available:
1. Off - operator control disabled.
2. Night - operator control enabled at night, 0:00 through 8:00.
3. Object - operator control enabled if at least one object is being controlled.
4. Always - operator control enabled 24/7.

Activating one of the Operator control modes makes the program display a special message every 30 minutes (Operator_control text on a yellow background), which the operator must close. This mode

allows controlling the operator.

You can switch the interface language for the application. Available languages are: Russian, English, Serbian, Belarusian, and Ukrainian.
To switch the language, select the required language on the list.
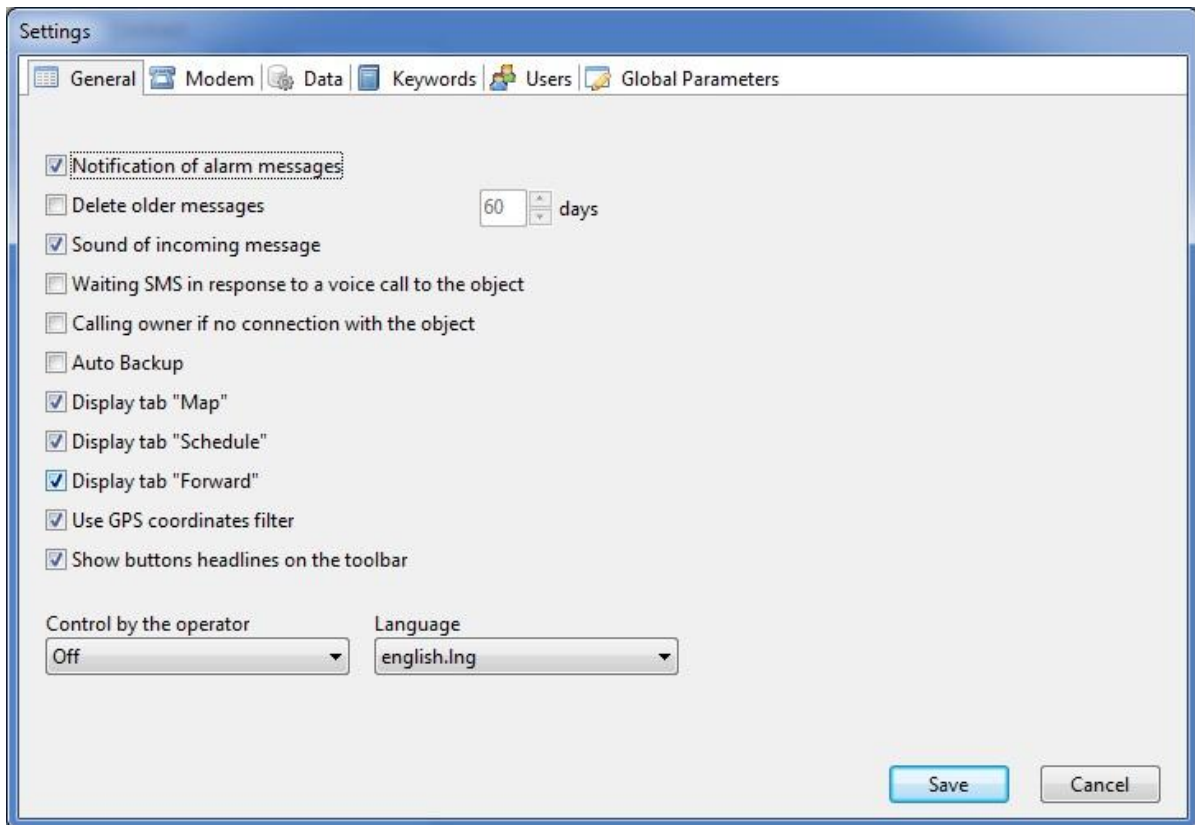
2. Modem

On this tab, you can configure GSM modems. The application can handle several modems at once. That is often necessary for improving reliability of a monitoring unit. With more than one modem available, you can take advantage of the connection control mode that uses the voice call, since the voice call can occupy the modem for a long period of time and will not allow it to process an incoming alarm message.

Set the Port number by selecting the required value from the list. This port is used by the GSM modem for connecting to the PC. A USB modem connected to the PC also appears as a COM port when installing the drivers. Don't forget to configure the COM port in Windows Device Manager according to the manual provided with the modem.

Select the data transfer speed; it is normally 115200. In the "Balance request" field, enter the command for requesting balance for the SIM card in the GSM modem. It is recommended to use the command that returns the response to the balance request in Latin characters.
A balance check command takes relatively long time. During that time, the modem is not available for running other commands; therefore, we recommend running the balance check only when it is really necessary.

To disable balance check, leave the "Balance request" field blank.

If necessary, provide the PIN code. The SMS center number is already recorded in the SIM card; therefore, you don't enter it manually (the field will be autocompleted when you click on the "Get modem data" button). It is better to disable PIN prompt using a phone.

In the "Flow Control" field, select one of the available values (better leave None). Change this value only if you are sure that your modem supports the selected mode.
Field "Expectation" - defines the maximum delay, within which the program waits for response from the modem. This value has to be picked. The less it is, the quicker the messages will go, but this may cause failures. The best value normally ranges between 10 and 15 seconds.
Field "Charset" - allows changing charset for SMS messages sent by the program. Normally the universal format is UCS2 (Unicode 16 bits). But some security systems may be unable to recognize this charset and work only with GSM or ANSI charset. In this case, outgoing messages will be Latin-only.
Field "Send SMS" - defines whether this modem will be used for sending SMS.
Field "Voice call/DTMF" - defines whether this modem will be used for placing voice calls (connection control) and executing DTMF commands.
Field "SMS delivery report" - toggles delivery reports for SMS sent to objects.

If the modem is turned on, and the configuration is done, click the Check button. If the modem is properly configured, the application will display a window with a message: "Modem is working properly". Click the "Get modem data" button to load the SMS center number from the SIM card, select charset for checking balance, actually check the balance, and obtain other data. If all these operations have gone successfully, you can close the window by clicking the Save button.

If the balance information fails to appear properly, try various "Balance request" options, clicking the "Get modem data" every time. The program will automatically generate requests in different charsets and pick a charset most suitable for handling the results (this routine may take a few minutes). After processing all the options, the program generates a list of responses. Select the one with correct balance information and then click Save. Charset settings are stored separately for each modem. This allows obtaining correct balance information for literally any modem and operator.
Using the "Add modem" button, you can add a new modem and then configure it as described above. You can have as many modems as your operating system and PC can support. If a modem is not used, delete it from the list using the "Delete modem" button.
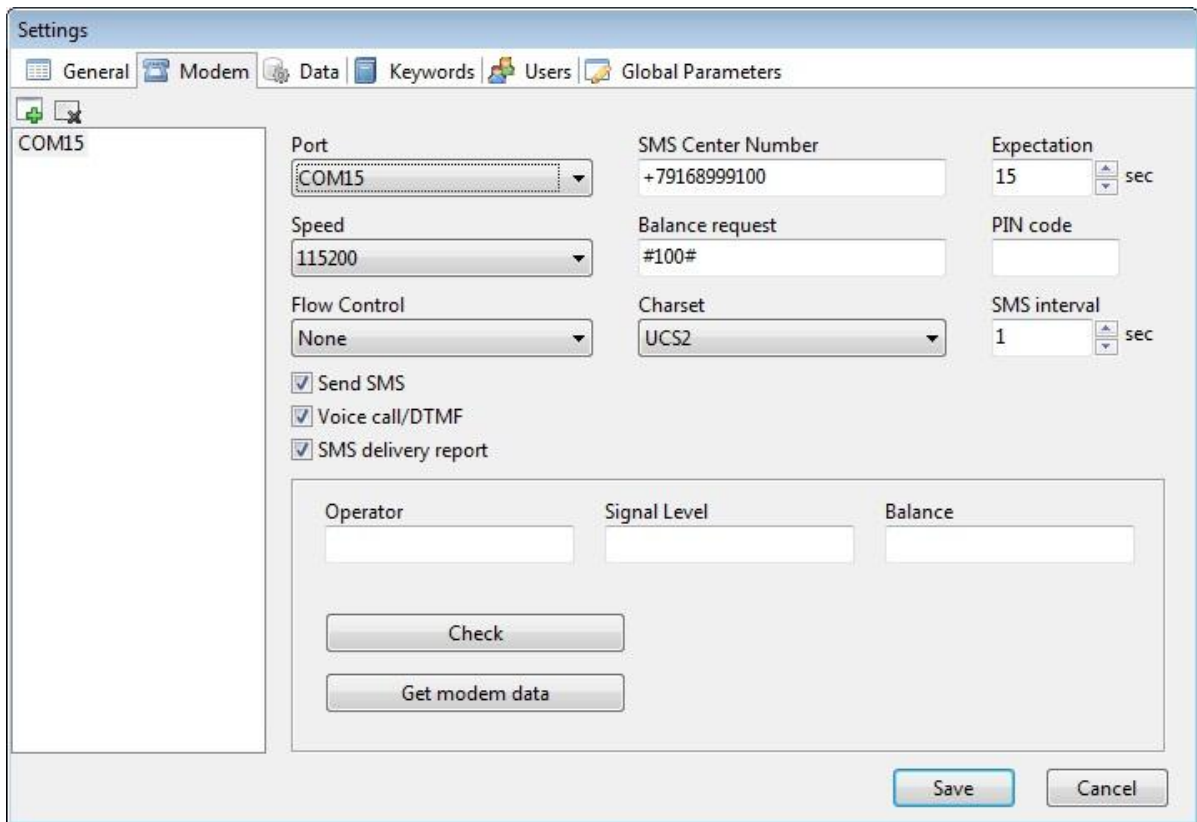
The software supports operators' branded modems (tested with branded Huawei E150).

Do not run the software with the default application from the operator's kit (close it).

The testing of the Huawei E150 modem has revealed the following limitations:
1. No balance check.
2. No support for DTMF commands.

All other functions of the application performed well.

Some of the GSM modems which has been tested by us and by our customers are as follows:
• Wavecom Integra, Fastrack Supreme M1306B/M1206, MOD2;
• Siemens MC35, TC35, TC35i, MC55iT, TC65T, TC45T, CT63;
• Multitech MTCBA-G-UF2;
• Cinterion MC55iT, MC52iT, TC65T.

Recommended GSM modem for 24/7 operation is any Wavecom or Siemens modem. Siemens TC35i and Wavecom MOD2 would be the ideal ones.

The application supports connection with network operator over the SMPP protocol via the Internet. Thus using the Internet you can send and receive SMS without a modem.

To enable SMPP, make the following settings in the config.cfg file:

[SMPP]
Active=enable/disable SMPP

Host=SMPP server address
Port=SMPP server port
SystemID=yourlogin for the server
Password= yourpassword for the server
DeliveryReport= enable/disable SMS delivery report
UCS2=enable/disable UCS2 charset
SenderID=returnphone number or name
Payload= enable/disablesending message; the feature must be supported by the operator. With Payload enabled, you can send long messages of non-Latin characters.

Setup example:

[SMPP]
Active=1
Host=smpp server
Port=3700
SystemID=user
Password=password
DeliveryReport=1
UCS2=1
SenderID=+10001234567
Payload=1

3. Data

On this tab, you can perform various operations over data.

We recommend running data maintenance procedures with all modems turned off. **At least once a week backup your data to a separate folder and to an external media.**
Recovering data from a backup with the "Recovery" or "Import objects" functions erases all current data. Please be careful !
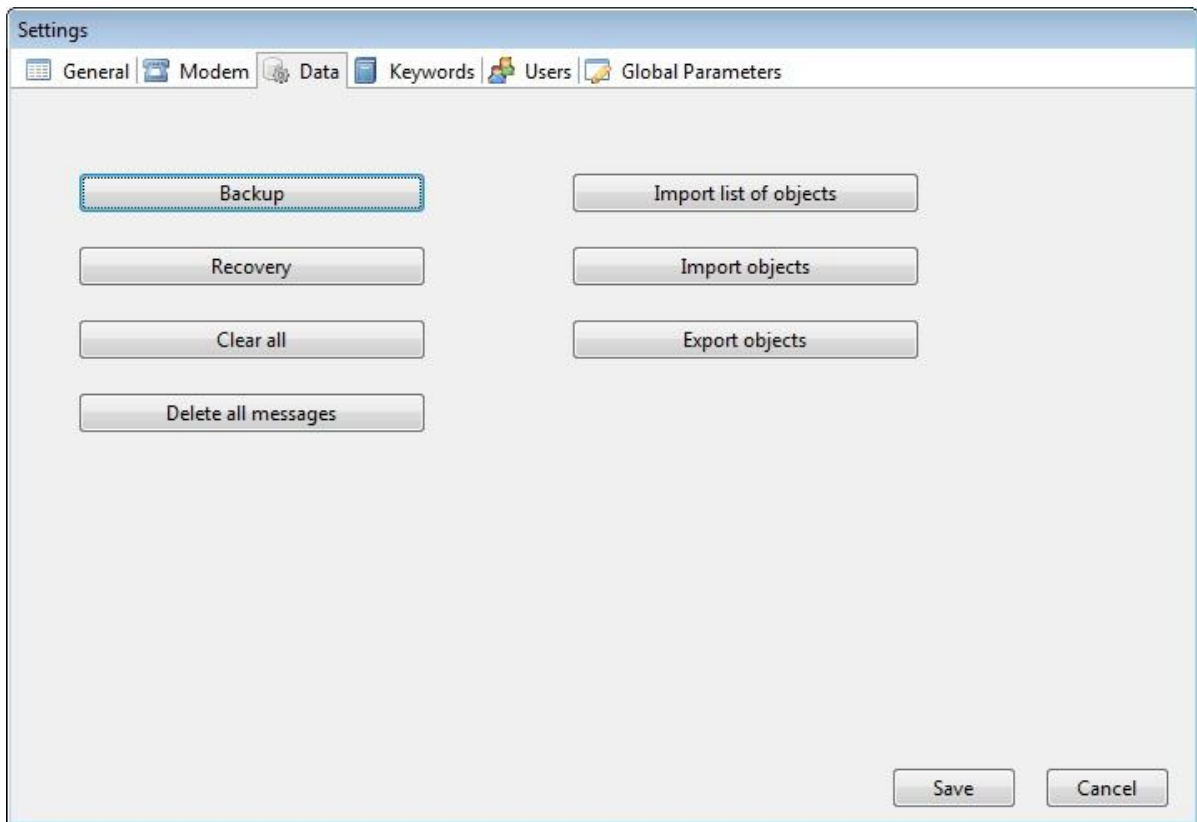
You can find out the format of the import/export file (a text file with the txt extension) by exporting currently available objects .

To load objects from other system, use the "Import list of objects" button. File format - text file with ";" for the separator.

Format description:
Name;Address;Owner;Owner phone 1;Owner phone 2;Landline phone;Primary device phone;Secondary device phone;Category;Contract;Template

4. Keywords

To enable the application to analyze incoming messages and take necessary actions (setting on control or removal from control, issuing alarms, connection checks), please enter the required keywords and phrases in the respective fields. One field may have several words and phrases. They are separated with a ";" character.

A key phrase may contain words joined by a logical "AND" operator; for that purpose, separate the words with the "&&" string. For example, the key "arm&&alarm" allows issuing an alarm when the message text contains "arm" and "alarm" regardless of the position of the words in the text.

To define keywords/phrases, you can use any characters. If you need to search the message for the entire keyword, you need to enclose it in the quotes. For example: setting on control - keyword *arm*, removal from control - *disarm*. At the same time, you see that the word dis*arm* contains the word *arm* in itself. In order for the program to interpret such commands unambiguously, the keywords must be
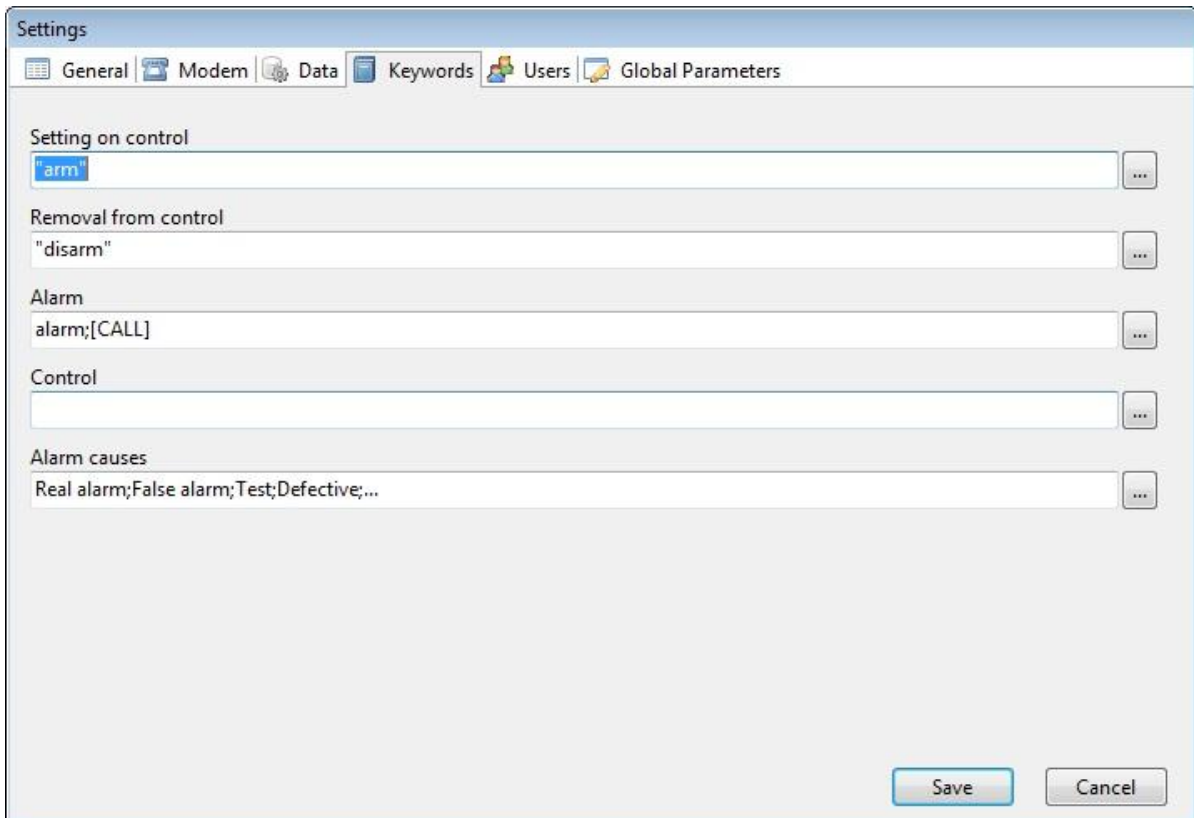
enclosed in quotes; e.g., "arm" and "disarm". Now it's important to make sure that these words are provided in the messageseparately and entirely. The search for keywords in the message text is case insensitive (arm = Arm); to run a case-sensitive search for a keyword, the word must be enclosed in the square brackets; e.g., [Arm].
You can also use both quotes and square brackets in keywords to specify that the program must search for an entire word, and the search is case-sensitive; e.g., ["Arm"].

Field "Alarm causes" allows to define a list of possible causes for issuing an alarm. When an alarm message appears, the operator can select one of the causes . If this field is empty, the selection isn't necessary. Phrases are also separated with the ";" character.
The "..." value will allow the operator to enter any text.

Keywords listed on this form are common to all objects. If you need to carry out a more flexible setup for each object and and take into account the control zones (define message text for each zone separately), you can do that in the object cards on the Objects tab.

5. Users

This tab allows managing the user list.

Here you can add, edit or delete a user. The application must have at least one user with the Administrator role. It is recommended that all operators of a central security office work as Operators. Therefore, you need to register each Operator. The Administrator of the application must have a password. The application keeps the passwords within itself, and therefore it is very difficult to compromise a password.
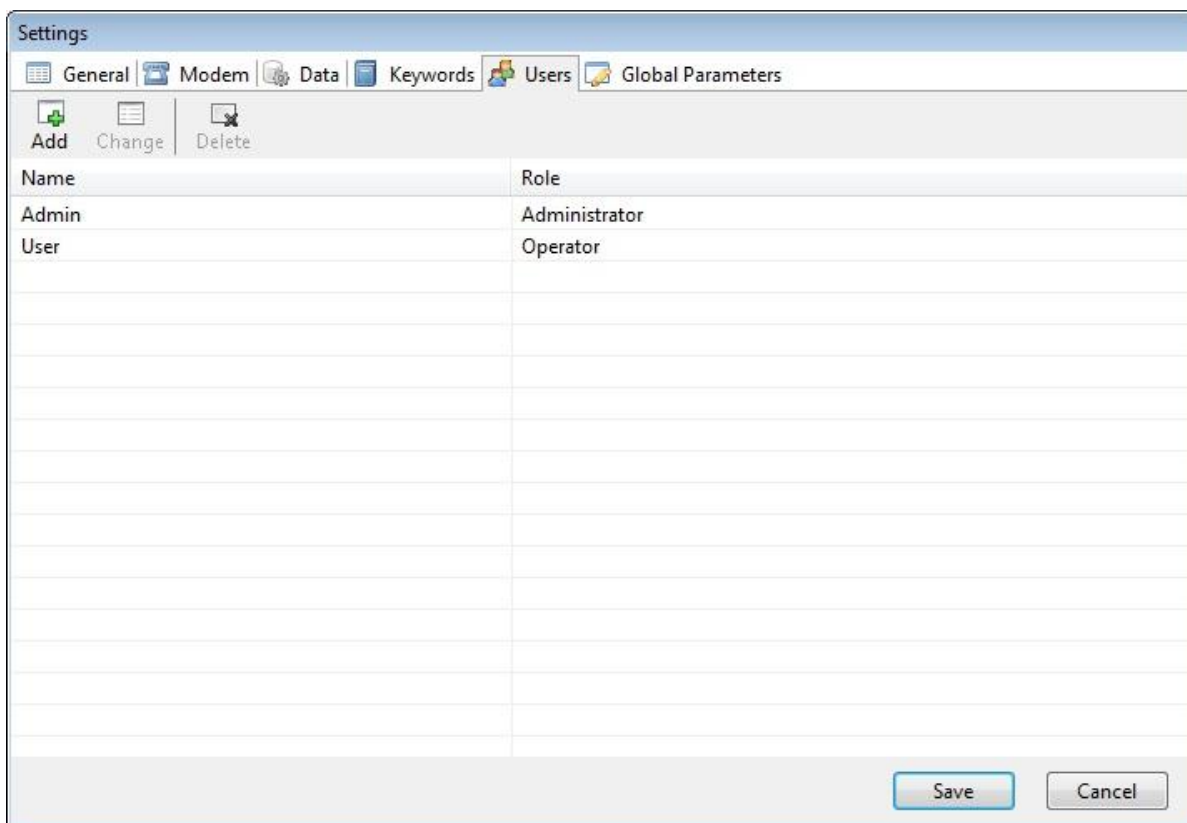
To register a new user, fill out this form:

6. Global Parameters

This tab allows managing the list of global parameters: add, delete or edit the entries.
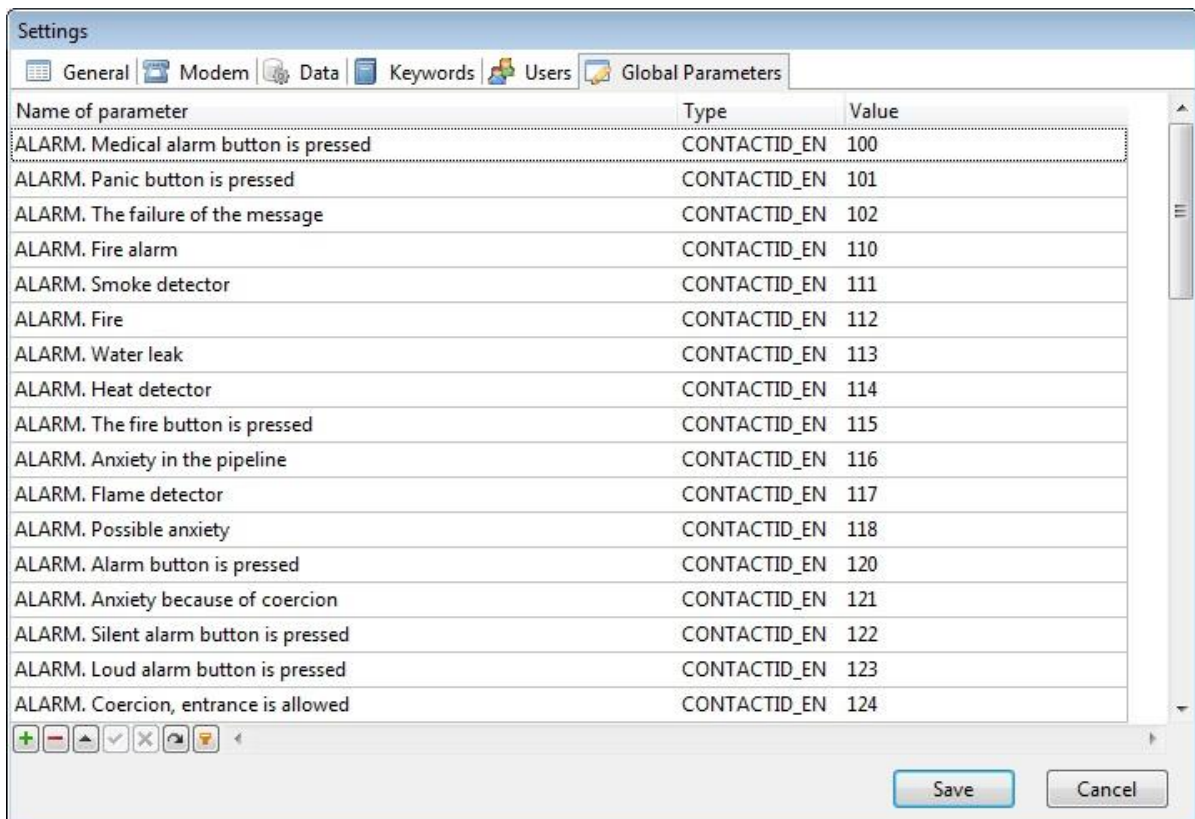
Global parameters are common to all objects. With global parameters you can handle various system information from object (e.g., error codes) and show the respective description.
Global parameters can be used for sending a parametrized message, where a part of the message is formed of a global parameter value of the respective type.

Please find more information in Objects.

Global parameters can also be used for forming command templates common to all objects.
To do so, enter the "Command" or "Admin Command" in the type field for commands available to administrator only.

Settings		
☷ General ⏏ Modem 🗋 Data 🗋 Keywords 👥 Users 📝 Global Parameters		
Name of parameter	Type	Value
ALARM. Medical alarm button is pressed	CONTACTID_EN	100
ALARM. Panic button is pressed	CONTACTID_EN	101
ALARM. The failure of the message	CONTACTID_EN	102
ALARM. Fire alarm	CONTACTID_EN	110
ALARM. Smoke detector	CONTACTID_EN	111
ALARM. Fire	CONTACTID_EN	112
ALARM. Water leak	CONTACTID_EN	113
ALARM. Heat detector	CONTACTID_EN	114
ALARM. The fire button is pressed	CONTACTID_EN	115
ALARM. Anxiety in the pipeline	CONTACTID_EN	116
ALARM. Flame detector	CONTACTID_EN	117
ALARM. Possible anxiety	CONTACTID_EN	118
ALARM. Alarm button is pressed	CONTACTID_EN	120
ALARM. Anxiety because of coercion	CONTACTID_EN	121
ALARM. Silent alarm button is pressed	CONTACTID_EN	122
ALARM. Loud alarm button is pressed	CONTACTID_EN	123
ALARM. Coercion, entrance is allowed	CONTACTID_EN	124

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Save   Cancel

4.3 List of objects

The Objects list displays all objects and their current type and status and allows editing objects.
The list can be modified only by Administrator.

At the top of the list, there is a field for selecting the current category of objects (to the right of it, you will find a button for editing the Categories list). Selecting a category rearranges objects and places objects of the selected category to the top of the list.
At the same time, the entire object list remains available to the operator. Other than that, all objects are ordered by type, status, and name. If an alarm goes off for an object, the object is always moved to the top of the list. Objects that do not fall into current active category appear grayed .
Underneath the object list, there is an object search field. Enter any part of an object name, phone or address and then hit the Enter key.
The program will highlight all objects on the list that meet the specified search criteria.

When displaying object cards on the "Cards" tab, the objects' frames change their color depending on their status:
1. Blue - object on control
2. Green - object off control
3. Grey - object inactive; connection control went off
4. Red - alarm
5. Purple - waiting
6. Cyan - voice call
7. Black - out of order.

To run any command over the objects, click on the respective button on the Toolbar or select the command on the context menu or press the required keyboard shortcut.
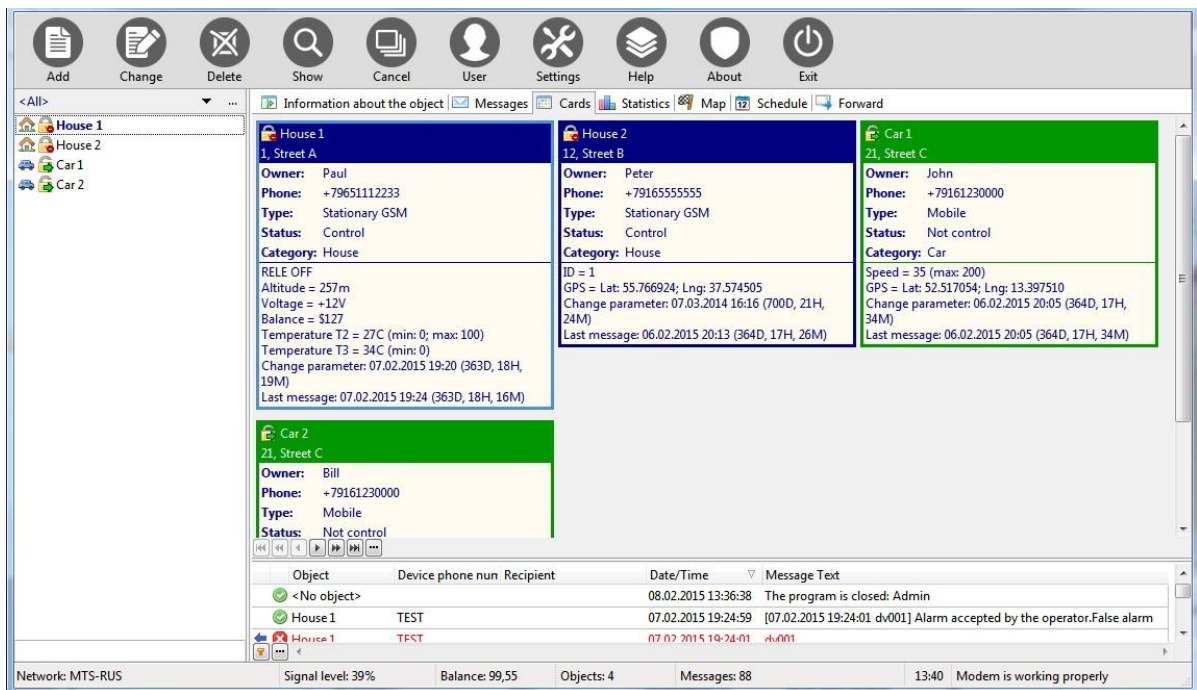

To set up appearance for the cards, click on the "..." button underneath the objects cards.
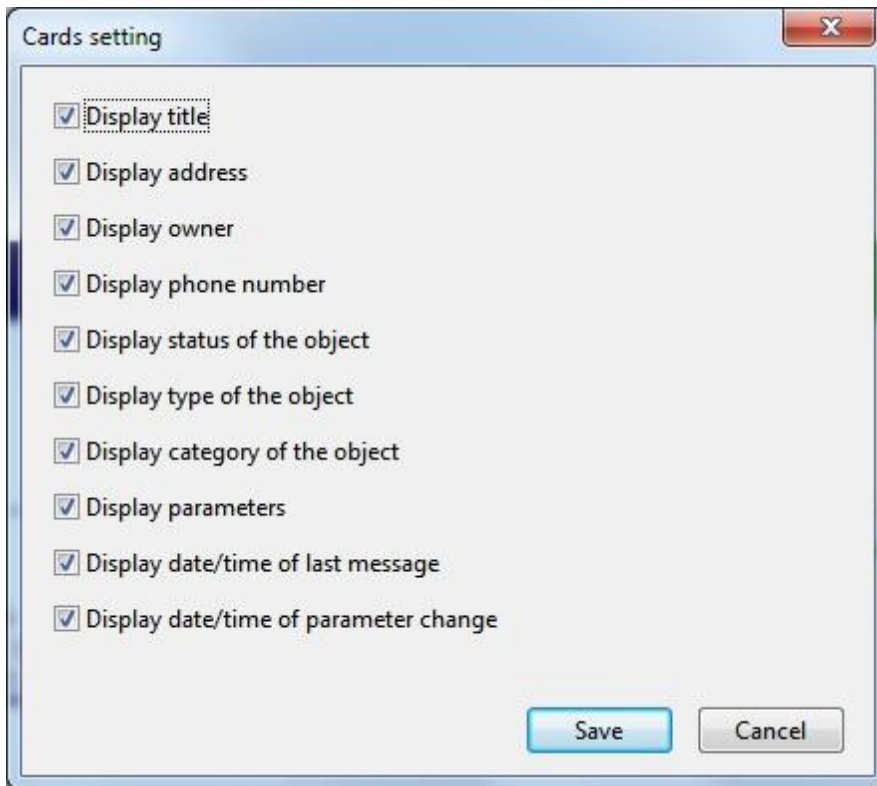
If in the cards' appearance settings certain object fields are disabled, hovering the mouse pointer over the object will display full information about the object.

Context menu for Objects:

1. **Add** - with this command, you can add a new object to the Objects list.
2. **Change** - with this command, you can edit the parameters of an object selected on the list. To edit a group of object, select them all with the mouse while holding the Ctrl key down and then click on the Edit button. This opens a card for editing all the selected objects at once. All the fields on the card that have identical values can be modified; other fields cannot be modified. Editable objects include all

entries located on the tabs of object cards, such as commands, parameters, etc. These lists display only absolutely identical entries. List entries that are different cannot be modified in by group editing.

3. **Delete** - with this command, you can delete the selected object from the list.

4. **Show message** - on the message list, shows only messages belonging to selected object. Switching to other object updates the message list, always displaying only the messages that belong to the selected object.

5. **Cancel filter** - cancels filtering messages for selected object. This command resets the message list to displaying all messages.

6. **Select all** - selects all objects on the list.

7. **Run command** – commands defined in an object's card for remote controlling and monitoring the object. Command – and SMS message, DTMF sequence or voice call (see object's commands). Administrator can send control SMS or DTMF commands to the device manually ("Send SMS..." and "Send DTMF..." items). This feature allows you to modify the system settings for the object remotely.

8. **Send SMS to a group** - allows sending SMS to owners of a selected group of objects.

9. **Create a copy of the object** - creates a copy of the selected object with all its elements. The new object is named "New object", and the phone number of the device is reset to blank.

10. **Testing** - places a voice call to the phone number of the device to test connecton and settings. If everything is set up properly, the GSM system in the object must reply with an SMS message with the system's status (for the majority of GSM systems). The command allows you to test the correctness of mutual settings between the central security office and the GSM system in the object.

11. **Run script...** - this command allows you to manage the list of scripts (sequences of commands) and run scripts for all selected objects.

12. **Report to Excel** - exports data on all registered objects to an Excel file. If Microsoft Office s not installed on the computer, the report will be exported in the CSV format.

To register a new object, add the new object to the list.
To do so, select the Add command (or press the Insert key).

When adding a new object or editing an existing object, you work with this form:

Complete all the fields on the form. All phone numbers are to be specified in the international format (example: +10001234567) no spaces, dashes, brackets or other characters.

The list of available Categories and Devices can be modified with the button to the right of the respective field.

When selecting a device from the list, the program looks up the respective template file (<device name>.dev) for completing the object card. If the template file is found, all the fields for the object and the details will be completed from the template.

If you want to disable servicing an object, i.e. no longer process alarms, run auto-commands or check connection for it, set the object's status to "Out of order".

There are three ways to check connection for objects:

- SMS check:
Using the respective command, the program sends an SMS to the object. Then, for the next 5 minutes, it waits for a reply SMS with a keyword specified in the settings (Keywords - Control). If no reply SMS is received, alarm goes off, and the object's status changes to "Inactive". The frequency of SMS check is defined by the user. Shortages: Increased overeads for central security office and objects.

- Voice call check:

Using the respective command, the program periodically places a voice call to the object. If the object answers or rejects the call, the call is considered answered, and the program immediately terminates it. If the object does not answer, the program makes 3 attempts to get through to the primary and 3 to the alternative number. If no connection detected, alarm goes off, and the object's status changes to "Inactive". You can configure the application to place an alarm voice call to the owner of the object. The routine is absolutely free for all parties. Having at least two modems is recommended for this control mode; one of them would be dedicated connection checks only.

Quite often, in case of no answer from the target number, the mobile operator automatically answers and notifies the caller that the called party is not available. The program mistakingly interprets this as an established connection. There s a handy workaround for such cases: in the SIM card installed in the object, set up call forwarding "if unavailable" to the number used by the security office, which connection check is run from.

- Last message time check:

In the object card, you can set up a time span, after which when no incoming messages from the object are received, the program issues an alarm message and changes the object's status to "Inactive". For checking connection with the object, set up a non-zero interval and its type. If the given interval is exceeded, the alarm goes off for the object, and the object's status changes to "Inactive".

If an alarm didn't go off, it won't go off until any new message comes in.

In any event, the object's status will remain "Inactive" until a new message or a voice call from the object is received.

If you need to control the object only with a certain time span, provide the respective values in the Control from/to fields. This way, all auto-commands and scheduled commands will be run only in the specified time frame.

Incoming messages are processed regardless of this setting, but alarms are issued only in the specified time frame. To monitor the object 24/7, set these fields to zero.

Select the required device from the list or select Other if your alarm system model is not listed. In the "Device phone number" field, enter the phone number of the SIM card installed in the object's GSM alarm system. If the GSM system uses two numbers, enter them as primary and alternative. At any moment of time, only one of the numbers can be active. All incoming messages are identified by both numbers if they are specified. SMS (manual or automatic), DTMF, and voice calls are sent to the currently active number. The active number can be changed on the application's main screen by selecting the required object. When handling incoming SMS and voice calls, the active number of the device automatically switches to the one they were sent from.

If an object is not a GSM system, in the "Device phone number" enter any alphanumeric combination of at least 12 characters.

For storing objects' photos and map files, you need to create a special folder (e.g., Files) in the application's folder.

It is recommended to use processed photographs up to 500 KB in size for photographs.

For a map, you can use an HTML or an SVG file. The map file appears in the application's main window on the Map tab and in the message window.

Before displaying the map file, the program parses its text and replaces the marked fields in it with the values from the settings and the object's fields (see the list at the end of the section).

To get the settings in the file replaced, specify them in the format [#setting name#]; this way, the tag in the file will be substituted with the current parameter value.

Other than that, [#setting name.min#] and [#setting name.max#] allow adding the minimum and the

maximum parameter values to the map.

With this feature, you can display mnemonic maps of objects with current parameter values.

An SVG file can be created with a free editor, e.g. http://inkscape.org/ .

The encoding of the map file must be only UTF-8.

"Web login" and "Web password" define respectively the login and the password for accessing the object through the Web application.

If these fields are blank, the object cannot be accessed. Please find more information about the Web server in the Web Server section of this manual.

"Use PIN code" - used when setting on control and removing from control is carried out by operator after the owner's phone call. In this mode, when setting an object on control, the program sends the owner an SMS with a random PIN code of 4 digits generated by the program. Later, to remove the object from control, the owner calls the security office and tells the operator the PIN code. The operator enters the PIN code, and if it matches the one sent by the system, the object is removed from control. The operator does not know the PIN code.

"Manually change the status of the object" - in this mode, objects can be set on control and removed from control by the operator using the respective buttons in the main window. This mode allows sending control SMS or DTMF commands to the object's GSM device. This requires the commands of the "Control" and "Do not control" type to be on the object's command list. Once a command is sent, the object's status changes to " Waiting", and the program waits for a reply on the status change. If the message does not come within 3-5 minutes, the object's status returns to the original one.

In the "GPS" fields, you can specify the coordinates of a static object for displaying it on a map. You can find out the coordinates of your object with the Google Maps website at maps.google.com. For your convenience, you can set the coordinates of static objects using the map (see the Map section of this manual). For mobile objects, these fields show the coordinates of the last point in their route.
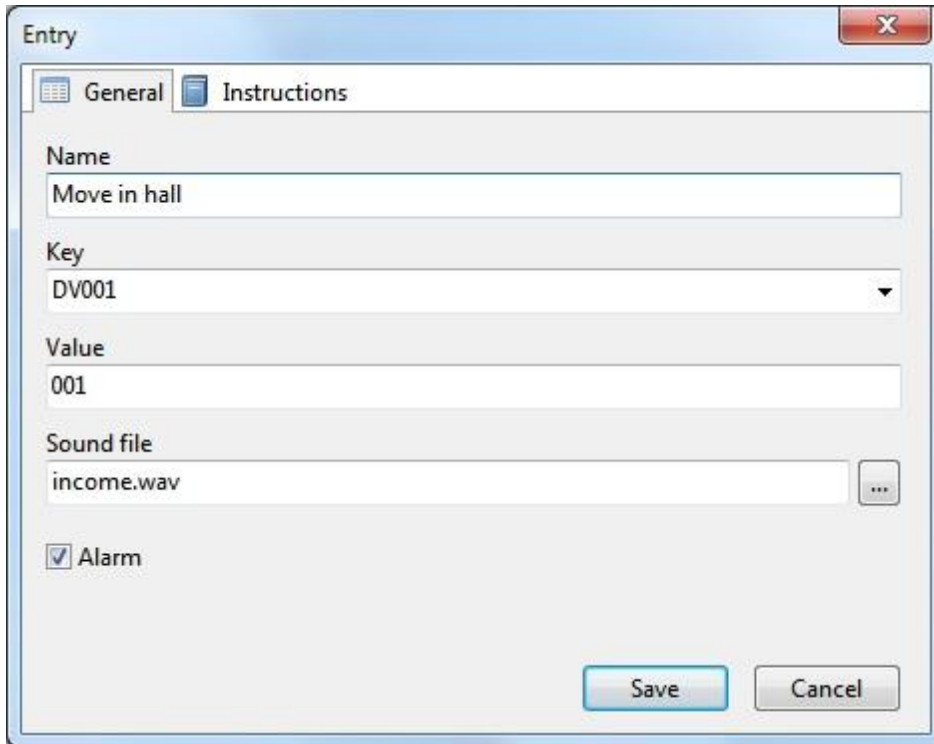
You can specify a custom text with a special keyword, phrase or word list for each zone (entry). The program analyzes the alarm message and displays the specific message if a keyword is found in it.

Example:

If an incoming message contains text DV001, it displays an alarm message with text "Move in hall".
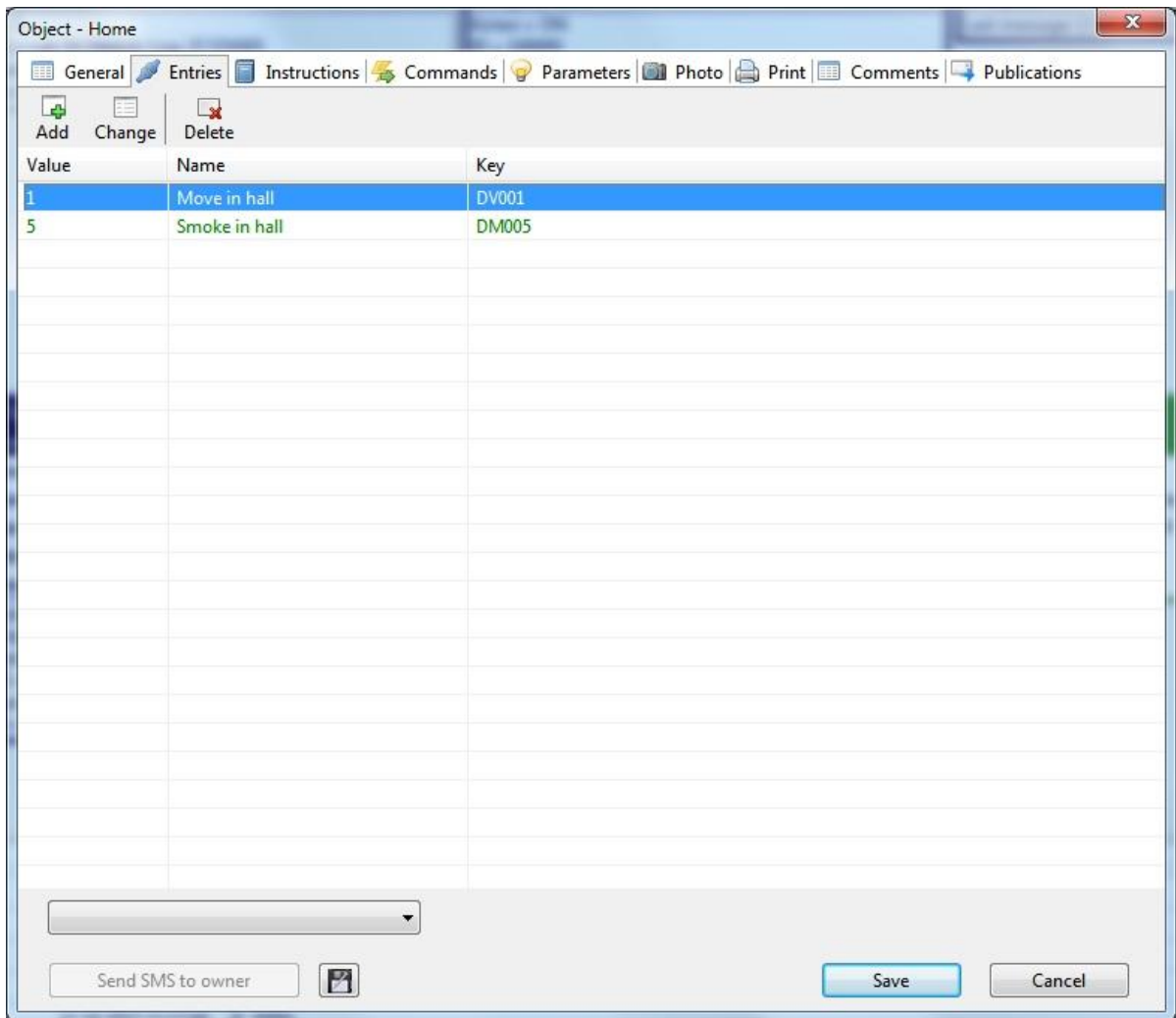
Each entry can be edited using a card (alarm mode):

You can create any number of entries for each object, and each entry can have any number of record in the list.

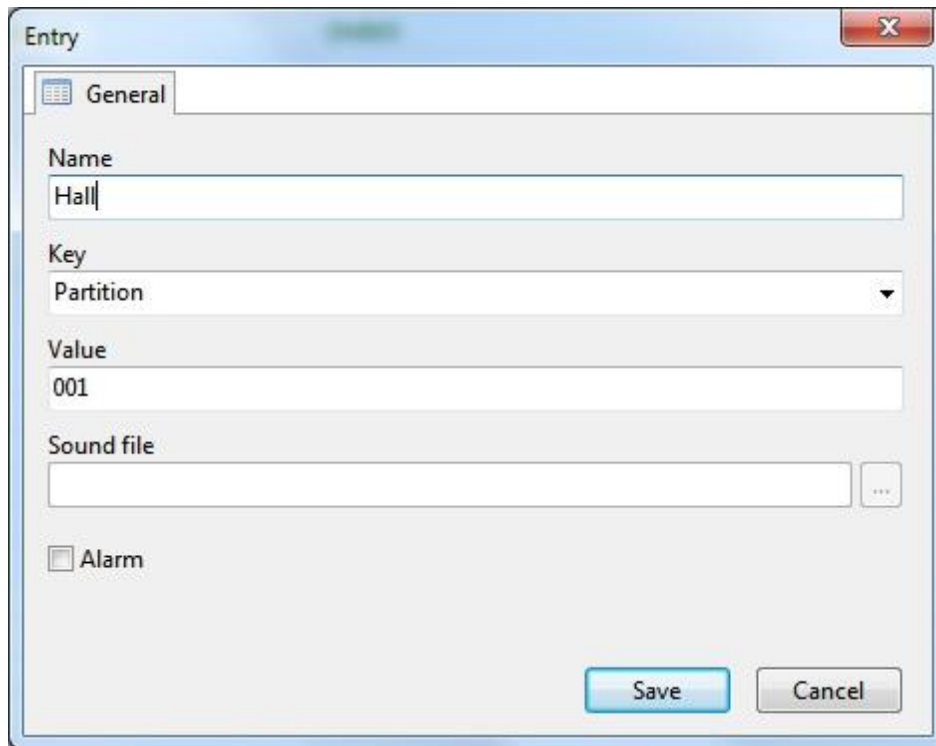"Name" - text to be displayed in the message to operator.

"Key" - keywords or phrases matching this message. A key can contain words joined with a logical AND; such words should be separated with "&&". For example, the key "ch1&&alarm" allows issuing an alarm when a message text contain the words "ch1" and "alarm".

"Value" - entry number on your device (numeric value).

"Sound file" - you can specify any WAV for playing a sound when this alarm goes off. For example, you can record your own voice: "Power down", "Motion in building", etc.

"Instructions" tab - you can provide special instructions for this specific alarm.

Each entry can be edited using a card (refbook mode):

The "Name" - the name of a text value.
The "Key" - a type Refbook, which is used in the parameter inputs to substitute values.
The "Value" - a unique code for the record key.

On the Instructions tab of an object card, you can provide common to this object instructions for Operator for a case of getting an alarm message.
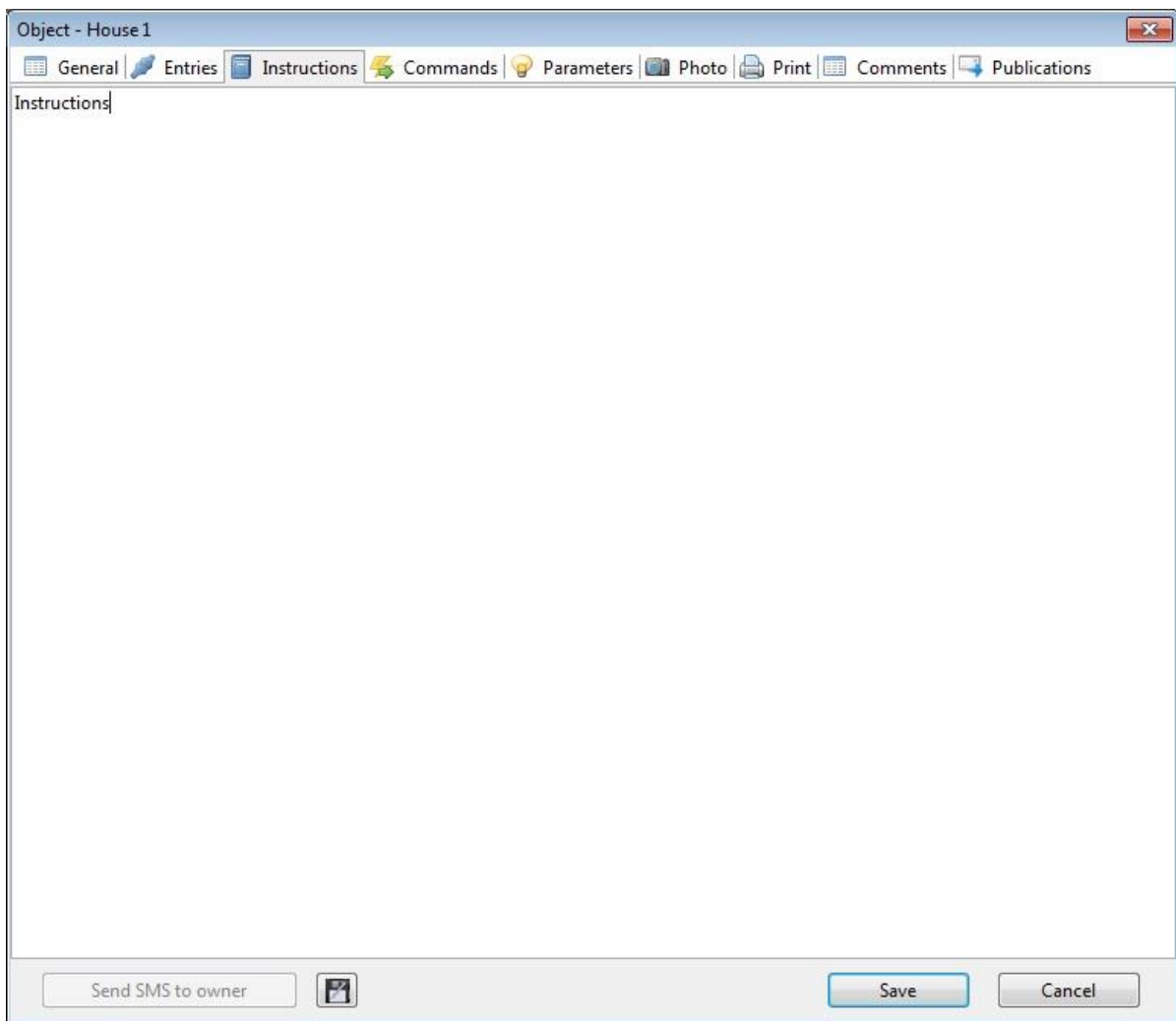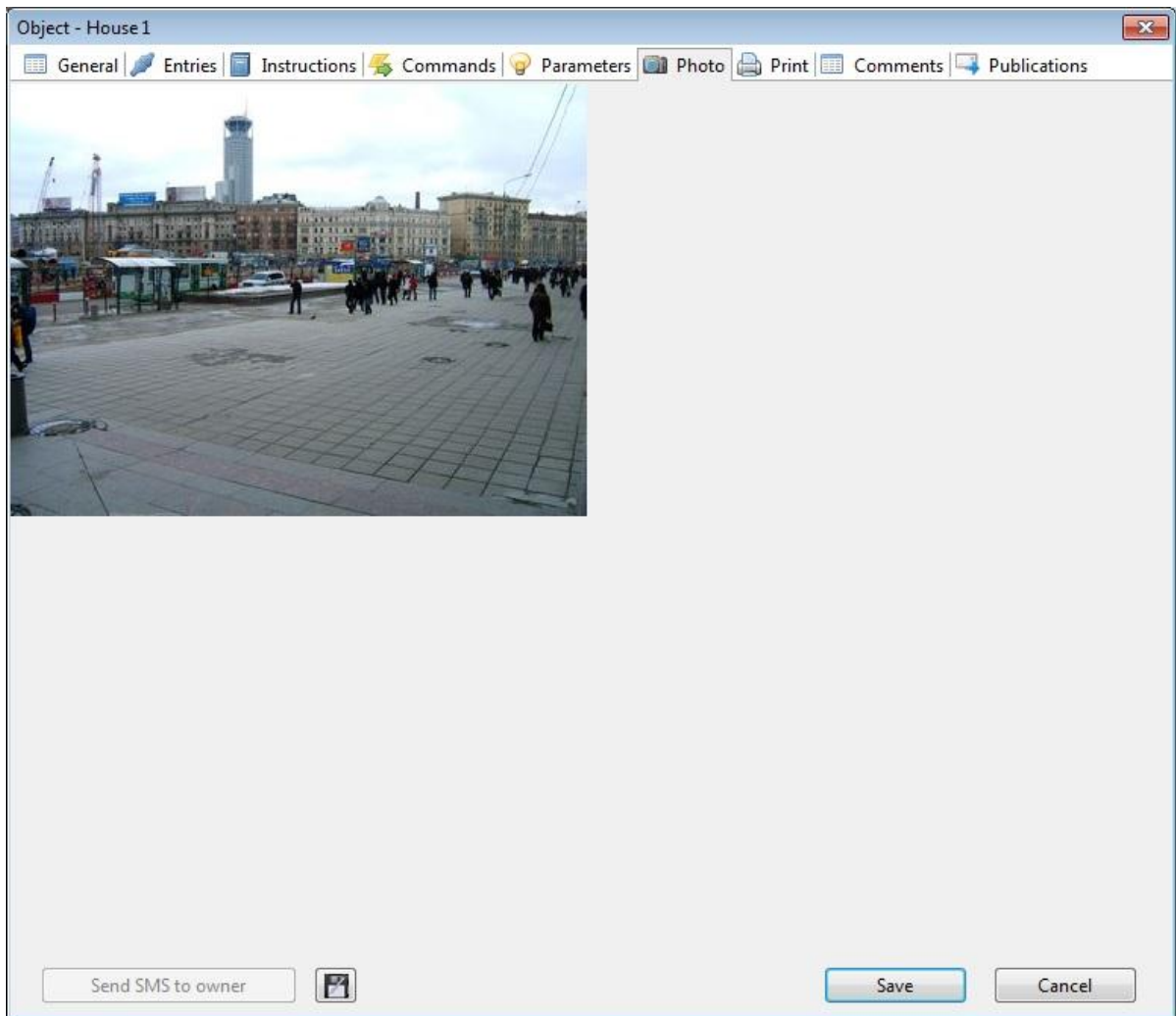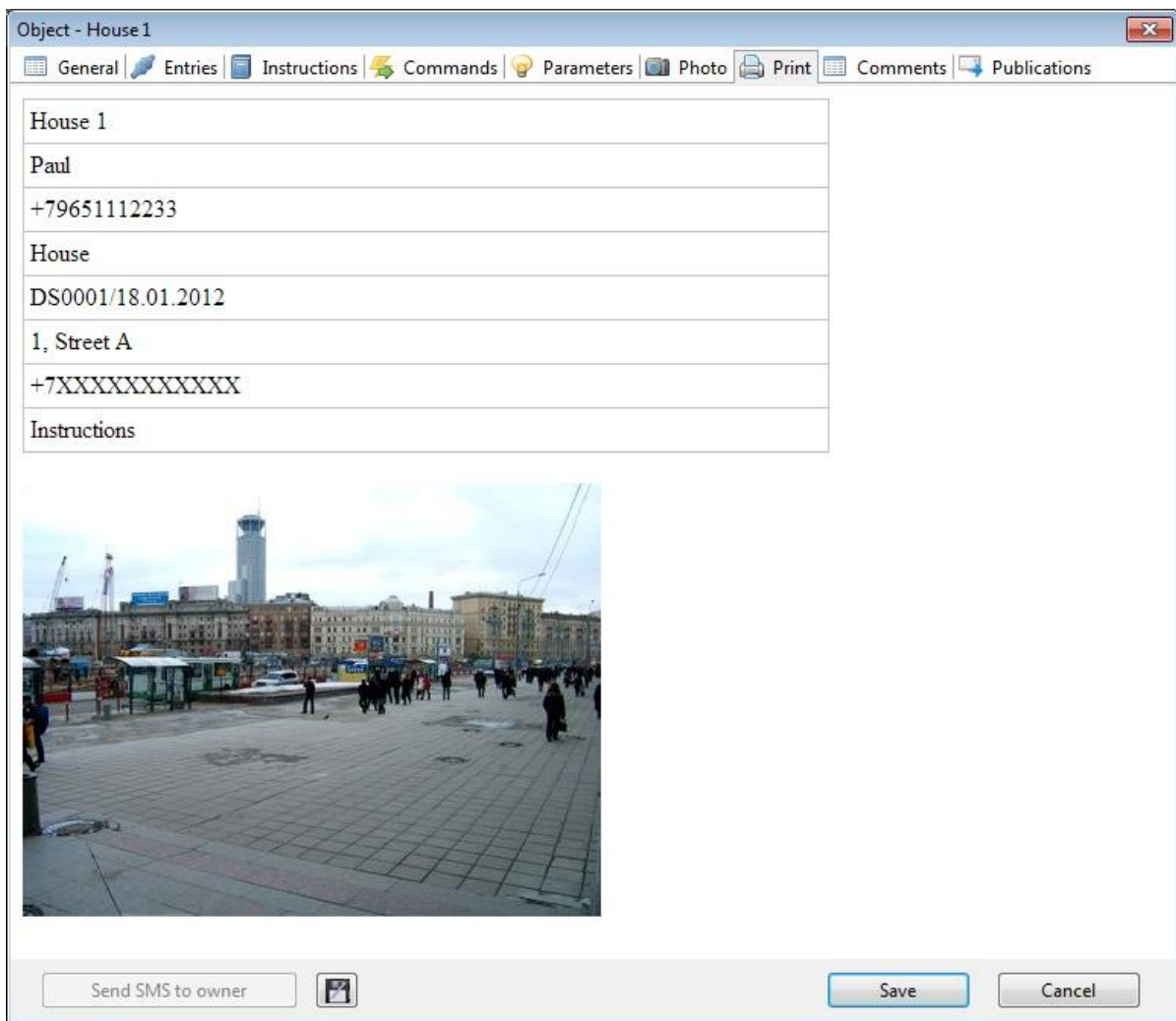
Photo tab - displays a photo of the object that is referred to on the Main page of the object card.
The photos should be processed prior to publishing and resized to have approximately 200-500KB in file size.

Print tab - displays summary on the object for printing. To print it out, right-click on the window and then select Print on the menu that appears .

Comments tab - allows defining custom phrases, which operator can add to any message text. Please find out more in the Messages section of this manual.
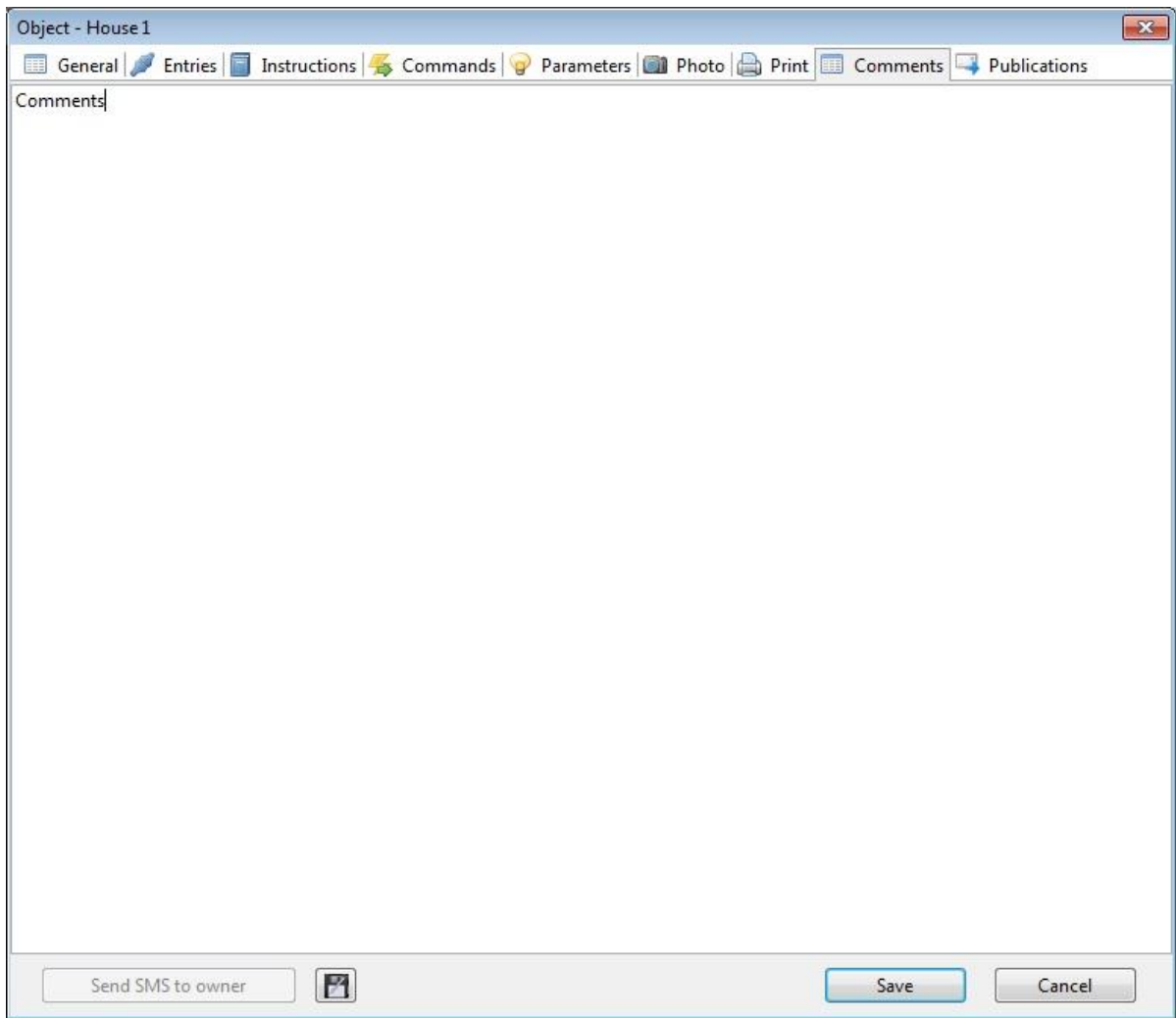
Publications tab - allows you to set up message forwarding using various criteria of recipient groups.
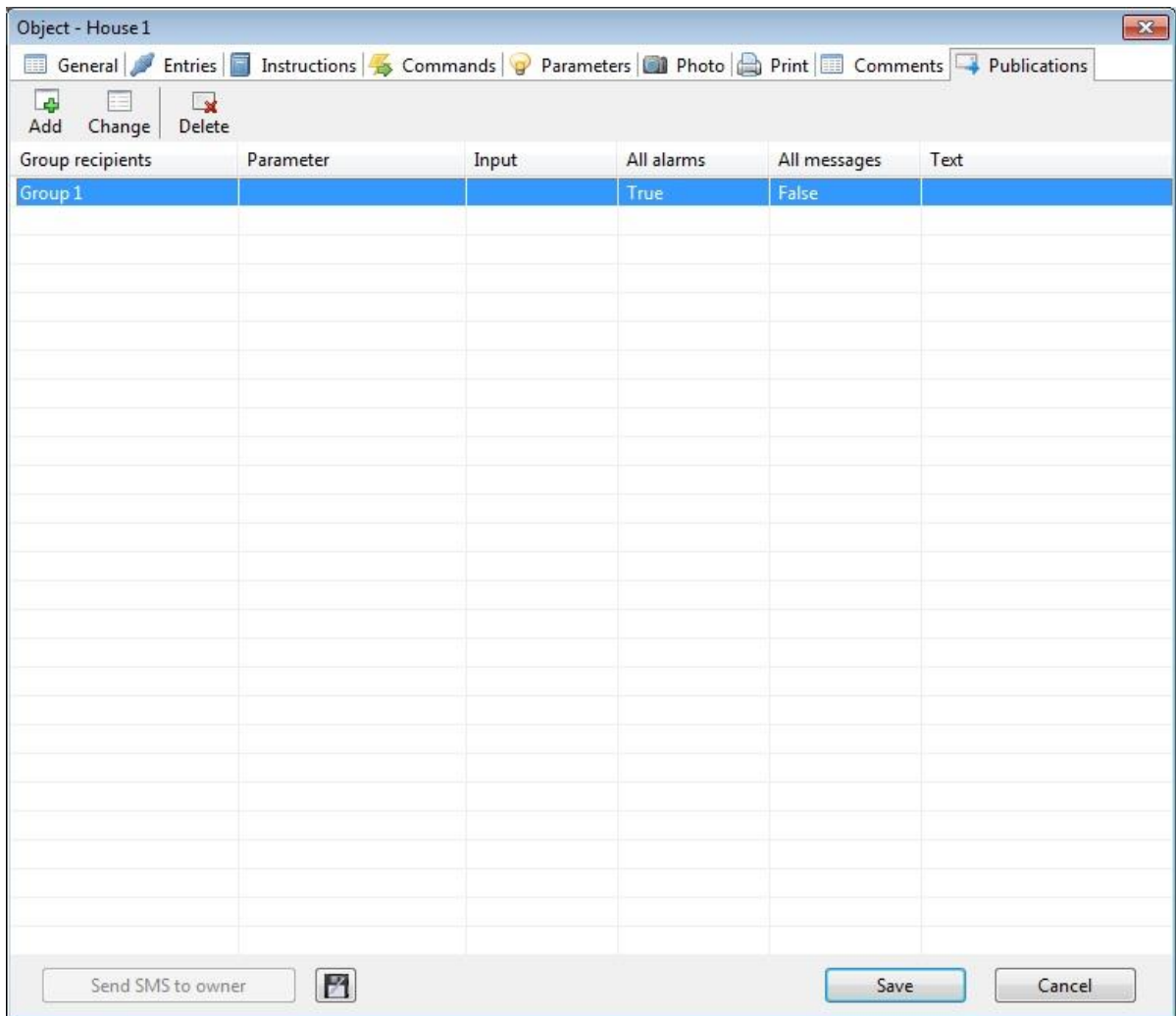
The Publications tab contains the following fields:

- Group Recipients - select one from the list (you can edit recipient groups and recipients on the Forward tab of the application's main window).
- Enabled - defines whether publication is active.
- Alarm input - allows forwarding only emergency messages by specfied input. At the same time, both the original message (select the Original message option) and the alarm name by the speified input can be forwarded; for that purpose, the Original message option should be cleared, and the field Message text must remain blank.
- Alarm parameter - allows forwarding alarm messages by specified parameter when the parameter value exceeds the min/max range.
- Message text - allows defining a message text that will be sent by the recipient.
- Key - allows to select for forwarding only the messages that contain certain words and phrases (leave the field blank if you do not need such selection).
- Original message - toggles sending the original message text.
- All alarms - if enabled, forwards all alarm messages for the object.
- All messages - if enabled, forwards all messages for the object.
- Sending by SMS - if enabled, messages are forwarded via SMS, if the values Phone1 or Phone2 are defined for the recipient.
- Sending via SMTP - if enabled, messages are forwarded via email, if the values Email1 or Email2 are defined for the recipient.

- Sending by Telegram - if enabled, messages are forwarded via Telegram, if the value TelegramID are defined for the recipient.

To forward messages via email, you need to set up access to an SMTP that will deliver the messages . Open the file config.cfg and then edit the SMTP section for accessing your SMTP server; for example:

[SMTP]
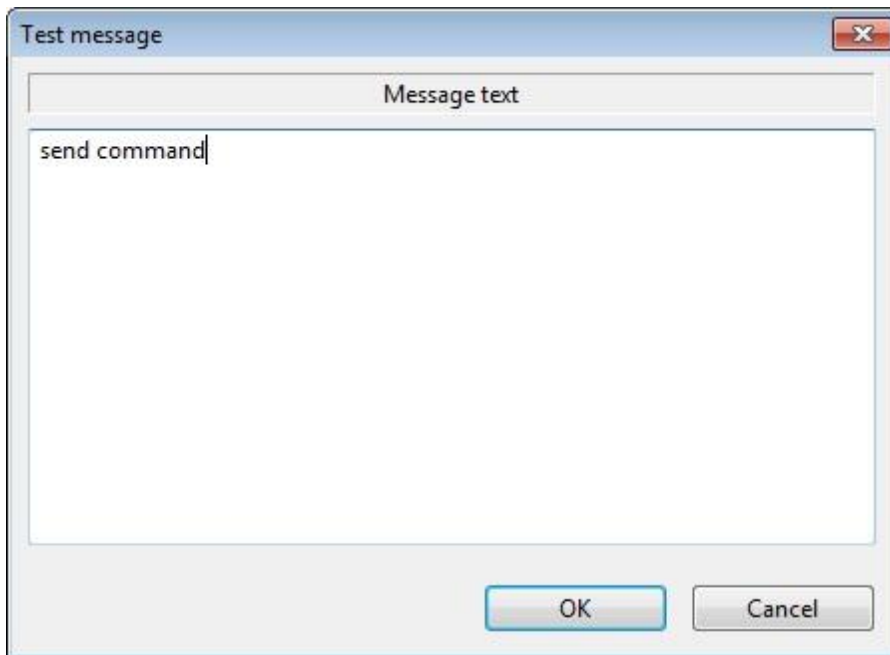**ServerAddress=smtp.gmail.com**
SSL=0
User=user@gmail.com
**Password=123456**
Port=25 or 465 for SSL=1

From the object form, you can send SMS to the object owner. The message may contain non-Latin characters.
The message is sent to all mobile phone numbers of the object provided in the card.

To search for an object, use the text field underneath the Objects list. Enter a part of the object namr or a part of its phone and then press Enter. If the object is found, it will be highlighted.

On the Settings tab in the main window, you can use the drop-down menu to build a value dynamics chart for each of the numeric parameters and copy the current value to clipboard and then export the data on the parameter to an Excel or CSV file.
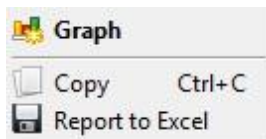
Object properties available as parameters when parsing the map file:

Object ID in DB
dbID: Integer;

Object name
Name: string;

Object address
Address: string;

Object owner
OwnerName: string;

Owner's phones
MobilePhone1: string;
MobilePhone2: string;
CityPhone: string;

Contract
Contract: string;

Device primary phone
SIMCardPhone: string;

Device alternative phone
ResSIMCardPhone: string;

Object type
ObjectType: Integer; (0 - static, 1 – mobile)

Object status
Status: Integer; (0 – set on control, 1 - removed from control, 2 – inactive, 3;4 – waiting, 5 – calling, 6 - out of order)

Alarm statuses
AlarmStatus: Integer; (0 – normal, 1 – alarm)

Device
DeviceModel: string;

Active device phone
ActiveDevicePhone: Integer; (0 - primary, 1 – alternative)

Category
Category: string;

Instructions
Note: string;

Photo
PhotoFile: string;

Map file
MapLink: string;

Use PIN code
UsePinCode: string; (False or True)

Manual change of object status
UseManualChangeStatus: string; (False or True)

Control period
HourStart: Integer;
HourStop: Integer;

Last message
LastUpdate: string; format dd.mm.yyyy hh:nn:ss

Last message without delivery report
LastUpdateWithoutReport: string; format dd.mm.yyyy hh:nn:ss

Last parameter update
LastParamUpdate: string; format dd.mm.yyyy hh:nn:ss

Object password
Password: string;

Latitude
Latitude: string; format 55.756993

Longitude
Longitude: string; format 35.346567

Current speed
*Speed: string; format 55.756993*

4.3.1 Commands

On the Commands tab, you can define sequences to be sent to object for modifying security/monitoring system settings or for requesting data.
This function must be supported by your security/monitoring system.
Available commands are defined by the equipment manufacturer. For forming a correct command list, please carefully study the manual to your equipment.

The order of commands on the list can be changed through the Up or Down context menu.
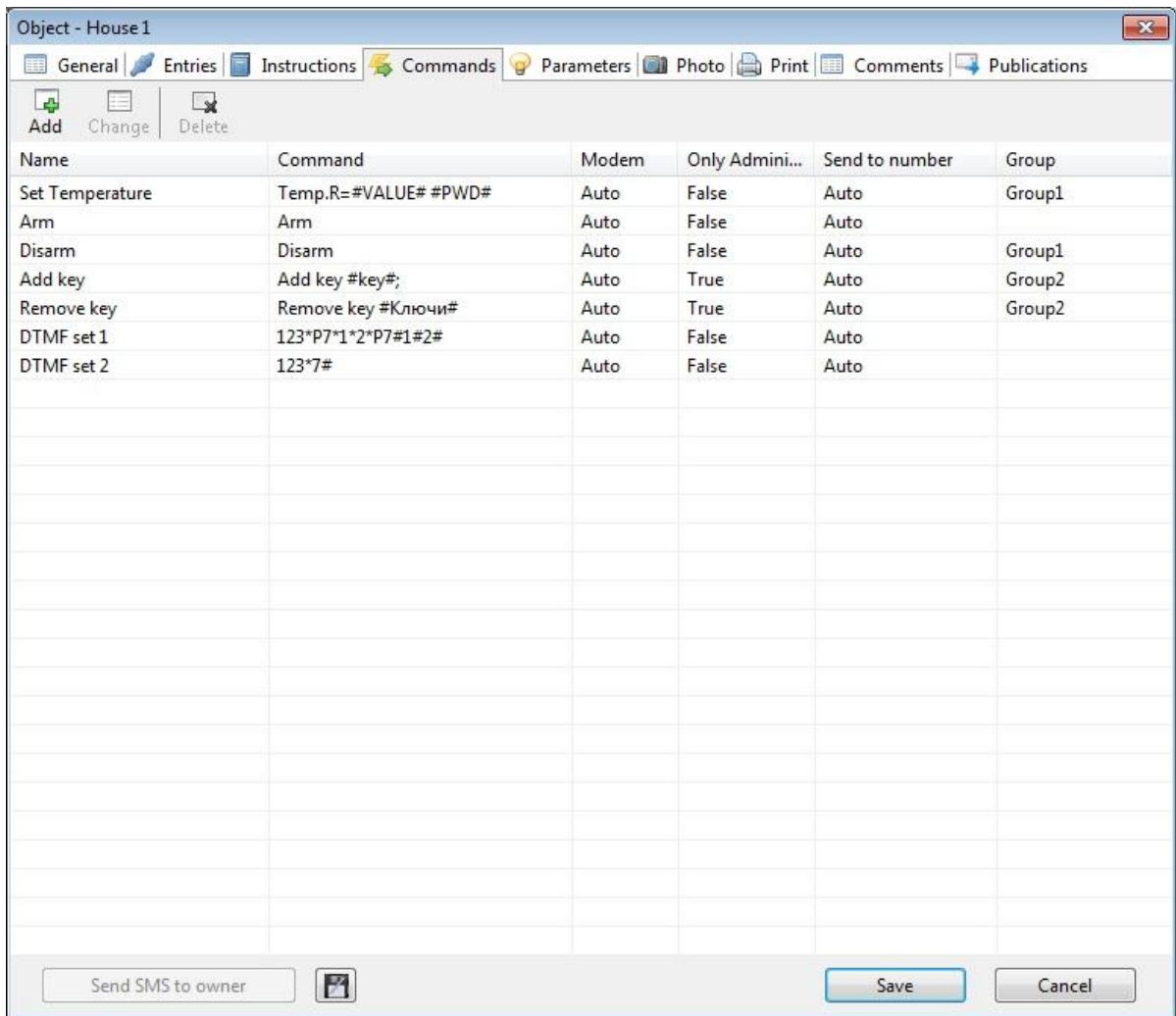
A command consists of a name and a special series of characters, i.e. the actual command text.

The Auto type allows running commands automatically with specified frequency (Interval, minimum 5 minutes). Commands of the Regular type are run from a drop-down menu of the Objects list (Run command). The "Control" and "Do not control" types are necessary for sending control commands when setting on control and removing from control manually by operator (clicking the buttons in the application's main window).

"SMS control" allows to periodically send a check message to object to check the connection with the object. That message must be replied within 5 minutes with another message containing a keyword or phrase specified in the application's settings (Keywords - Connection check). If no reply comes in, the program issues an alarm message.

The "Voice control" type periodically places a voice call to the object (to primary and alternative number if specified), thus checking the connection with the object (using a GSM modem). If the object answers, it is considered to be connected. If the object doesn't answer, the program makes 3 attempts total (each 60 seconds long) to reach the object. If the connection is not established, the program will issue an alarm message.
Certain settings allow the program to also wait for an SMS with a keyword for 5 minutes. Voice control requires using a dedicated modem. Other than that, if connection to object cannot be established, the

program can call the owner (see the application's settings). If the object's phone number has call forwarding to other available number or the operator notifies with voice that the subscriber is not available, the program cannot clearly identify connection loss, as the voice connection is actually established (phone call answered). To resolve this issue, try setting up call forwarding to the number of the modem, which the program uses for dialing out. This way, the connection most likely will not be established, and the program will identify that the subscriber is actually not available.

Green-colored commands on the list are those that run by schedule or automatically.
The commands can use both SMS and DTMF protocols. If you use the DTMF protocol, your command text should have a DTMF sequence of characters from the set: **0..9, *, #, A, B, C, D, P** .
Where P - means pause for 1 second. To extend the pause, you can place several P characters in a row. If the device requires password for accessing it, add it in the very beginning of the message.
If the DTMF command text is empty, the program will only place a voice call. You can then use this command in Schedule.
Just as for placing voice calls, it is recommended to use a dedicated modem for the DTMF mode.

"Modem" - allows binding the command to one of the modems. Setting this field to "Auto " allows the program to use the first available modem, depending on the modem settings and the command's action (Send SMS, Voice call/DTMF).
If you want to sort the commands by modems depending on their functionality, specify one of the modems in this field once they have been registered. Only then it will be used for running this command. Besides that, if you want to use different modems for receiving voice calls about about setting on control, removing from control and alarm, you can use different modems for the commands "Control", "Do not control", and alarm calls. This way, one of your modems will be in charge of receiving all calls about setting objects on control, another one - for receiving all calls about removing from control, the third modem can be dedicated for receiving alarm calls and messages, and the fourth modem can be used for checking connection with the objects. This is the most efficient and reliable way. Of course, your GSM system must support all these features. Do not forget to list the texts of the commands for setting objects on control and removing them from control in keywords (Settings).

"Only Administrator" - restricts running the command to Administrator.
"Send to number" - allows to select the object's number (primary, alternative or auto) for sending the command.
"Group" - allows grouping commands in the object's drop-down menu.
"Access" - allows setting availability for the command in the main application and the web app.

To generate the command text, you can use the following reserved words:
#PARAMS# - adds the current value of one of the object's parameters to the command.
#VALUE# - adds any value entered by user in the prompt window to the command.
#object parameter name# - adds current value of the specified parameter of the object to the command.
#global parameter type# - adds value of global parameter matching the specified type to the command; the operator will be provided with a list of global parameter values with the specified type.
#XX.YY,N,W# - allows selecting a numeric value for adding to the messame. The numeric value will have the range between XX and YY with step N and
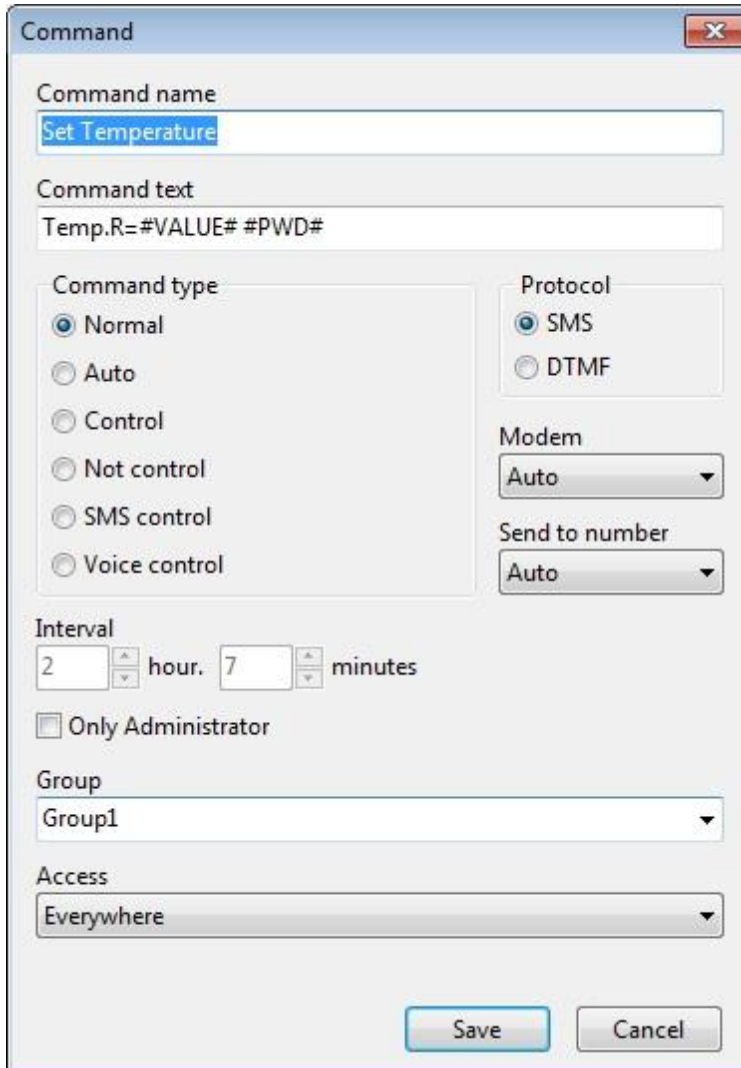initial value W. To simplify, you can create a command like #XX.YY# or #XX.YY,N#.
#SETDATETIME_ddmmyyyy,hhmm# - allows you to insert a date and time where "ddmmyyyy,hhmm" - this format for date and time, which can be changed.
#PWD# - adds object password value to the message. The password is taken from the respective object field. Object password found in any message is not visible to Operator (replaced with *'s).

From the web application, commands with reserved words are sent as entered (except #PWD# and #VALUE#), without substituting the parameter values.

Example of using a command prompting user to enter a value (similar to using #PARAMS#):

Example of using the current parameter named "Keys" for forming a command. Specifying a parameter of the "List" or "List of global param" here would prompt Operator to select one of the list entries.

Example of command of the "Control" type:

4.3.2 Parameters

The Parameters tab allows you to view and handle various parameters received from objects.

The order of parameters on the list can be changed through the context menu Up or Down. The parameters in the object's card will be displayed in the same order.
All parameters received from object are placed to the application's Messages list.
You can export the messages to Excel to analyze the statistics by parameter and generate a chart.

A parameter card includes:

1. **Name** – parameter name.
2. **Parameter type** – defines one of the available parameter types.
    1) **Numeric –** look up and display a numeric value. Used for displaying temperatures, pressure, balance, relay status, etc.
    2) **String –** analyze text similarly to Numeric value, except here both alphabetic and numeric values can be used.
    3) **Contains –** analyzes message for containing certain words and phrases.
    4) **Ksytal entries –** analyzes entries.
    5) **GPS** - parses GPS coordinates.
    6) **ID** - identifies object; contains a unique value for binding text messages to object.
    7) **List** - list of values (list leading prefix in the Key field, value delimiter - ";", terminating suffix - "#", control characters can be edited in the config.cfg file)
    8) **Global parameters** - list of values including global parameter values (Settings/Global parameters).
    9) **Password, Speed, Fuel, Ext.power** - parameters for parsing respective data from GPS trackers.
    10) **GSM** - parsing GSM coordinates.
    11) **Glob.parameter** - substitutes a value from the global parameter list.

12) Entries - the substitution of the value of the reference Entries (Entries tab cards of the object).

3. **Display** – specifies the display mode for the parameter in the object's card (always, not empty, never).

4. **Key** – key word or phrase to be looked for in the incoming message text, followed by the parameter value (e.g., T2= for parsing parameter T2= +23). Each word or phrase is separated with a ';' character . Provides special keys: %d and %p, where %d – specifies that the message contains only a number; e.g., balance. %p – specifies the position in the incoming message; e.g., for RELE= %p1 or RELE= %p2. Ifthere is one keyword, you can specify the position using the Position field. If you need the Key to be searched for as whole word, enclose it in the quotes; e.g., "T:". The search for the Key in the message text is case-insensitive (t2 = T2); if you need to run a case-sensitive search for the Key, enclose the Key in the square brackets; e.g., [T:].You can use both quotes and square brackets together to specify that you need to run a case-sensitive search for the whole word; e.g., ["T:"].

5. **Position** – position in parameter value to be analyzed (see examples below). The zero value in the Position is ignored.

6. **Value, Displays** – matches the values found in the message to the parameter values displayed. Example: for a relay, 1 – stands for ON, and 0 – for OFF. Multiple values can be listed delimited with a semicolon.

7. **Refbook** - specify the type of directory from the list of Entries or Global parameters.

8. **Delimiter** - specify a character or a set of characters that will separate the parameter name from its value (by default " = ").

9. **Prefix** - characters to be displayed before the parameter value.

10. **Suffix** - characters to be displayed after the parameter value (e.g., for displaying the measure unit).

Parameter examples:

Numeric value – temperature T2 (message text is searched for T2= ; then the numbers after that phrase are displayed):

To correct the numeric values to be displayed – for example, when the temperature sensor is on the outside of the pipe, although it is supposed to display the heat carrier – you can enter the "+" or "-" in the first Value field, and then enter the correction value in the Displayed.

Specifying the Min. and/or Max. values in the fields issues an alarm message if the parameter in the incoming message exceeds the specified range.

Relay status . Since the message texts contained in the report and in the reply after changing the relay status by hand differ, two different keywords should be used. For the first one, you specify the position of the character to be analyzed in the string. In this example, that's the 2nd position. In other words, if the incoming message is RELE=010, the result will be 1, and that means the parameter will be displayed as "ON". This can also parse messages like Rele N2= 1 or Rele N2=OFF.

Balance. All operators have unique messages. Some have just a number, so we specify %d for them; i.e. the message contains only a set of numbers. Use %ds if the message starts with a number, and then have the text.
Other operators may have a keyword like Balance=.

This parameter depends on the words that occur in the message. In the example, the words are analyzed for the Voltage parameter. Depending on the values that occur in the message, the parameter value is set to Normal or OFF.

This parameter type allows analyzing each individual entry (Ksytal devices) and display the required parameter value depending on the result. In this example, the 4th entry is being analyzed. The entry number is specified in the Position field.

To track objects (GPS tracking), you need to define a parameter of the GPS and/or GSM type.
GPS type allows parsing GPS coordinates from GPS/GLONASS devices.
GSM type allows parsing and obtaining coordinates from GSM networks' base stations (MCC, MNC, LAC, CID).
To obtain the coordinates from GSM network's data, you need to be connected to the Internet. This feature is an auxiliary way to obtain the coordinates of the device when GPS signal is unavailable.

Specify any parameter name. The Key field must point to the keywords that precede the coordinates in the message . The first one should be the Latitude key and then there should be the Longitude key separated by a semicolon.
In the message they can be in any order.

If you need to have other keywords in the message text,for example, that the coordinates are correct or the GPS receiver in the device is enabled, enter such words in the first Value field (in the example: OK and GPSON).
If you need to exclude messages with certain words from parsing, enter them in the next field .

Example of a message with coordinates:

OK ;Latitude= 55.784417,Longitude=37.634611;GPSON;Speed=100;

Parameter

Parameter name

GPS

Parameter type | Display
GPS | Never

Key

LATITUDE=;LONGITUDE=

Position | Min | Max
0 | |

Value	Displays
#1	GPSON;OK	--	
#2	ERROR	--	
Other	--	

Refbook

Delimiter | Prefix | Suffix

Save   Cancel

If you need to parse GPS coordinates of an object presented as a single line, e.g. like this:
http://maps.google.com/maps?q=43.2403236,76.9404523

You can enter only "q= " for the key. The program will extract the latitude followed by the longitude from the message.

Example of creating GSM coordinates:

By default, GSM coordinates from MCC and MNC networks are provided in the decimal format, while LAC and CID (CELLID) are in the hexadecimal.
If you need to parse LAC and CID in the decimal format as well, enter the word DEC in the Displays field.

To speed up object configuration when working with a GPS tracker, you can take advantage of the automatic object creation function, which extract the required parameters from any message. The program must receive just one message from the GPS tracker and then, using the "Create object from message" function in the Messages list, you create an object card with necessary parameters filled automatically (Parameters tab).

To parse and display lists of values, use the List or Global Param. List type.
The list is identified by the Key. The delimiter between list values is ";", the end of the list is marked with the "#" suffix.

Example:
The message ID:10;12;13# contains the list of values 10, 12 and 13.

To parse lists of global parameter values, use the parameter type "List of global param".
In this case, for each received global parameter list value the program finds the matching name.
In the "Global refbook" must specify the type of directory from the list of global parameters.

To parse a parameter, the value of which must be matched to the name from the global parameter list, use the parameter type "Global param".
This parameter type is used when there are more than 2 options of the parameter values, and each parameter value needs to be displayed as a comprehensive description.
In the "Global refbook" must specify the type of directory from the list of global parameters.

Parameter type "Entries" allows you to substitute in the text instead of the value obtained from the refbook (entries of object card).

In the "Refbook - entries" specifies the type of reference, which will need to look for the value received from the message.

Additional parameter types available:

- **Password** - if defined, the password value from the received message will be filled in the password field of the object card.
- **Speed** - required for configuring GPS tracking; allows to determine whether object is moving.
- **Fuel** - allows registering fuel level.
- **Ext. power** - allows registering object's ignition state to identify parks and stops.

Test message entry makes it easier the setup the parameters and keywords:

In the application's main window, select the required object on the Objects list and then press the **CTRL+ALT+E** combination on the keyboard. Then enter the message text and press Enter. The program will treat this message as if it was the incoming message.

4.4   List of messages

The Messages list stores all incoming and outgoing messages. Messages are ordered by date and

time. The latest messages are at the top of the list. You can double-click on any message on the list and view the detailed information on it.

Columns:

"Object" - contains object name. The object is identified by the device phone number.

"Device phone number" - contains active for the moment of sending/receiving the message device phone number.

"Recipient" - applicable to outgoing messages only, contains the phone number the message was sent to.

That is either the active device phone number, if the message contains a command, or the owner's phone number, if that's an information message to the owner.

"Date/Time" - displays message sent date and time for outgoing messages and message received date and time for incoming ones.

"Message Text" - contains the original (not parsed) message text.

When the application runs under Administrator, it parses all incoming messages.

For the Operator role, the **program parses incoming messages received from objects only;** all other messages are deleted without parsing.
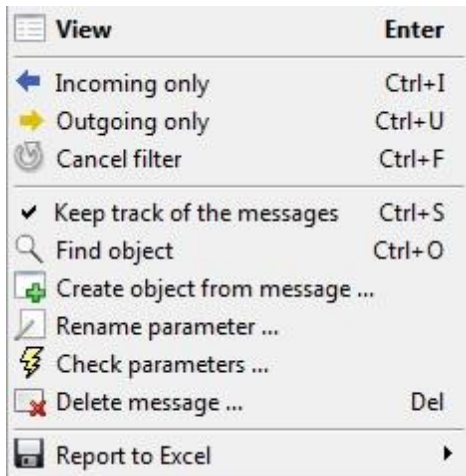
If you need to always register all messages, including those received under Operator, you need to create a new object named **Undefined** (to ease up the object creation job, use the Undefined device template).Thus all messages received not from objects will be bound to this object.

If at the moment of sending an SMS the modem or the PC were turned off, the messages will be delivered and parsed by the program when the equipment is turned back on. Usually the SMS delivery waiting period is 24 hours since sending. The new message check is run every 5 seconds.
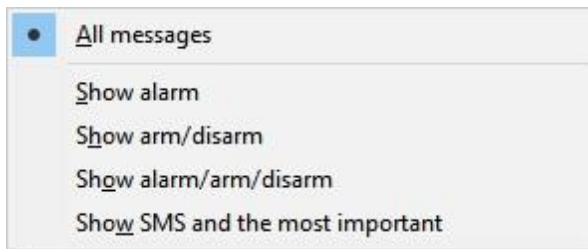
For the purposes of illustration, messages on the list are marked with arrows indicating messages being sent (right arrow) and received (left arrow) by the modem. These messages are also highlighted with a different color. All other messages are for reference only.

Messages context menu :

🔲	View	Enter
←	Incoming only	Ctrl+I
→	Outgoing only	Ctrl+U
⏻	Cancel filter	Ctrl+F
✓	Keep track of the messages	Ctrl+S
🔍	Find object	Ctrl+O
⊞	Create object from message ...	
✎	Rename parameter ...	
⚡	Check parameters ...	
✗	Delete message ...	Del
💾	Report to Excel	▶

Filter by message type (button <...>):

|	
●	All messages
	Show alarm
	Show arm/disarm
	Show alarm/arm/disarm
	Show SMS and the most important

You can filter out messages by direction: incoming and outgoing. This filter can work along with the objects filter, allowing you to view the messages of you interest by the selected object.

You can set up a more complex message filter with a combination of different conditions (by all columns):
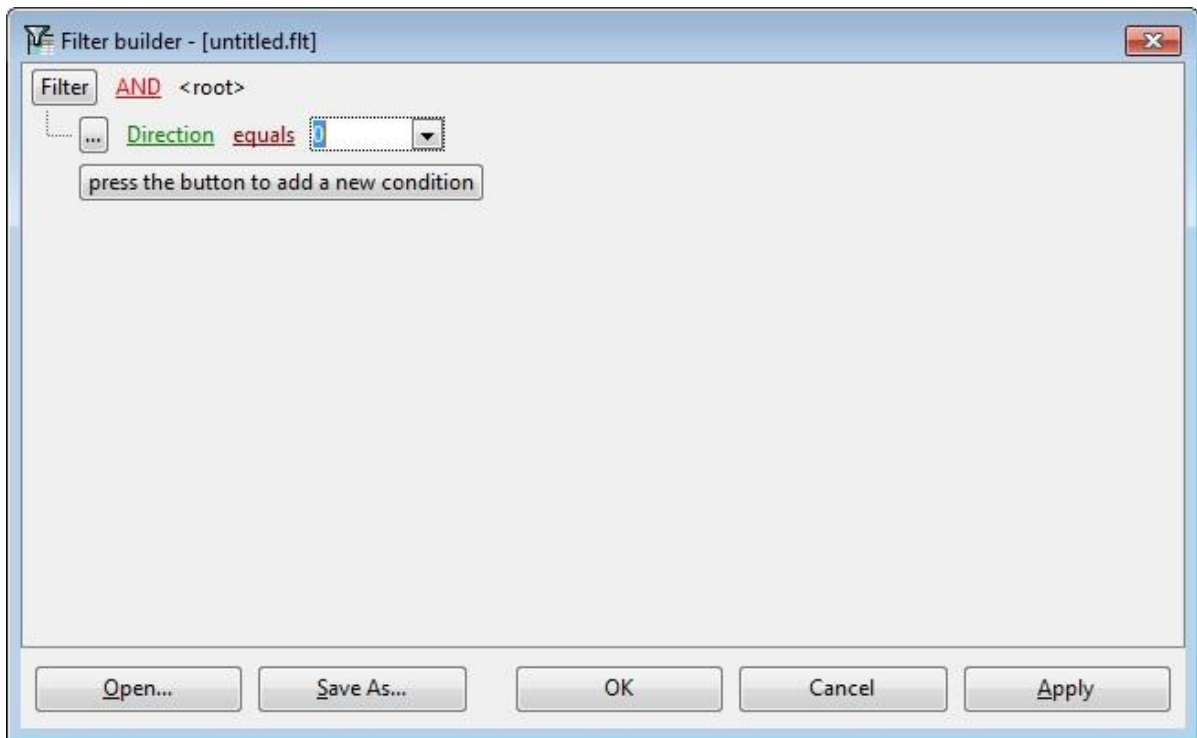
"Keep track of the messages" - always shows the latest messages on the message list.
"Find object" - quickly finds object on the Objects list by the selected message.

Administrator can delete the selected message and rename the parameter on the message list after renaming the parameter in the object card.
If you need to print out or analyze the message list, use the "Report to Excel" command on the context menu.
To be able to use this command, your computer must have the Microsoft Excel application from the Microsoft Office suite. If the Microsoft Office suite is not installed, the report will be exported as a CSV file.

"Check parameters" - checks whether current values of all parameters of all objects match the last received messages containing changes of each parameter. If the data differ, the program updates the parameter values in the object. All changes are logged in the messages.

"Create object from message" - allows creating a new object from any received message.
If the message is a regular SMS, the device phone number in the new object card will have the phone number the SMS was sent from.
Using the received messages, you can create a new object, where certain fields will be filled and necessary parameters created automatically .

To ensure proper identification of parameters in a selected message, the message must contain them all. The object identifier (ID) found in the current message will allow you to bind all future messages from the device to this object card.

Message date and time can be transmitted in the very beginning of the message with the keyword TIMESTAMP= .
The key can be changed in the config.cfg file.

The message form contains information on the object and the message text:

Using the << and >> buttons, you can switch to the next message on the list.
If necessary, a message can be sent to a group of subscribers; to do so, click on the right arrow button, that will open the list of all subscriber groups. Select the required one, and your message will be sent to everyone who belongs to the selected subscriber group (both as SMS and via email).

At any moment of time, Operator can add a comment to the message text. The comment may consist of text and predefined phrases, which should be added on the Comments tab of the object card beforehand.
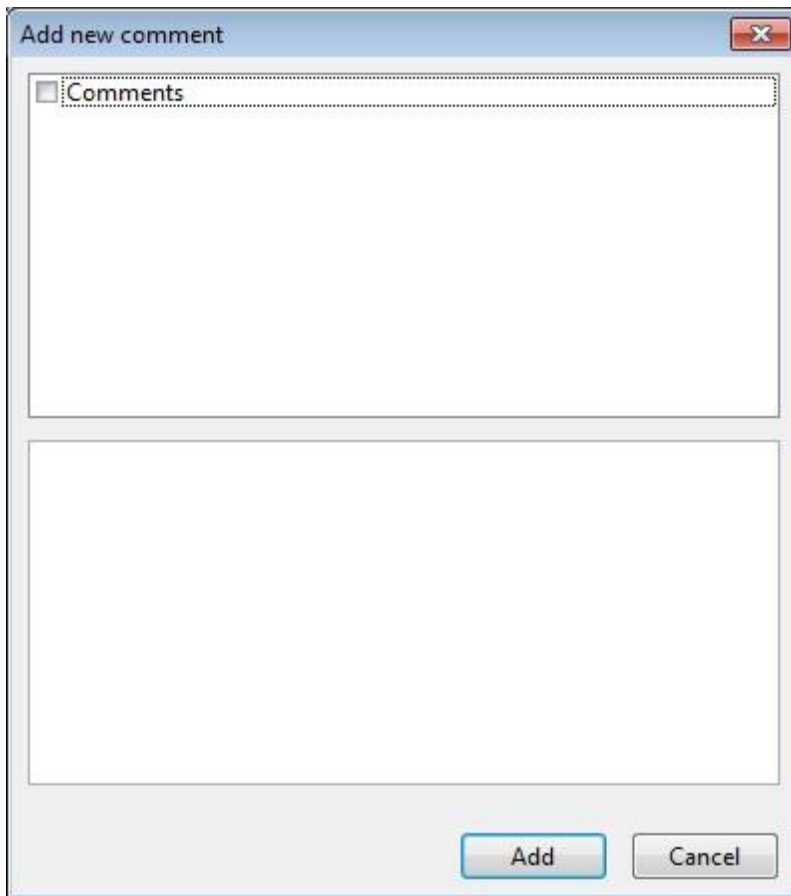
4.5   Alarm message

If the program receives an alarm message (including voice call) from the alarm system, the alarm message immediately appears on the screen. The message on the screen is accompanied with a sound (if the PC is equipped with speakers). You can change the application's behavior on incoming voice call in the settings provided in config.cfg.

An alarm message contains full information on the guarded object, original message, instructions for the operator and detailed information about the message.

All basic information is provided on the General tab:

Operator, according to the instructions, must either "Defer alarm" the message (for 10, 30, 60 minutes) and check the object (call up security, report to object) or "Accept alarm". The Accept alarm message begin with the date and time of the original alarm message. All possible causes are specified in the "Alarm causes" field in the "Settings/Keywords" window. If that field is empty, Operator will not have to specify the cause.

Optionally operator can add a comment to the message text.

A deferred alarm message will pop automatically after the selected delay. The application cannot be closed until all issued alarms are accepted.

To force opening a deferred alarm, double-click on the object on the list that has an unaccepted alarm. All Operator's actions are logged in the alarm message.

If necessary, a message can be sent to a group of subscribers; to do so, click on the right arrow

button, that will open the list of all subscriber groups. Select the required one, and your message will be sent to everyone who belongs to the selected subscriber group (both as SMS and via email).

On the Photo tab, you can see what the object looks like. If a message contains a photo of the object received via POP3 (email; see the respective section of the manual), this tab will display the photo of the object. Such messages are marked with a special icon on the grid.
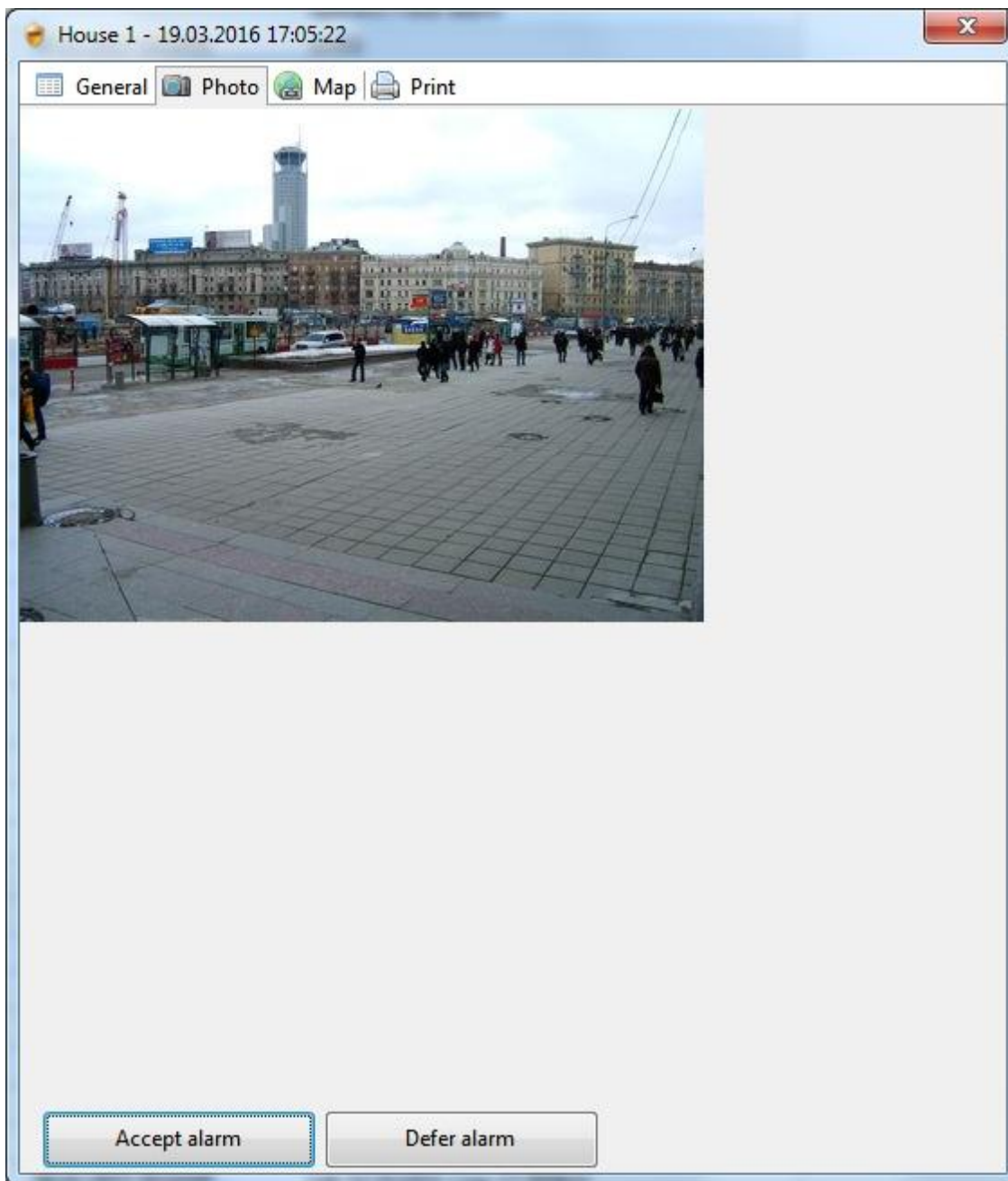
On the Map tab, you can see the location of the object or the object map.
If the object is mobile, the tab will display the point where the alarm was issued and the path for the last 24 hours:
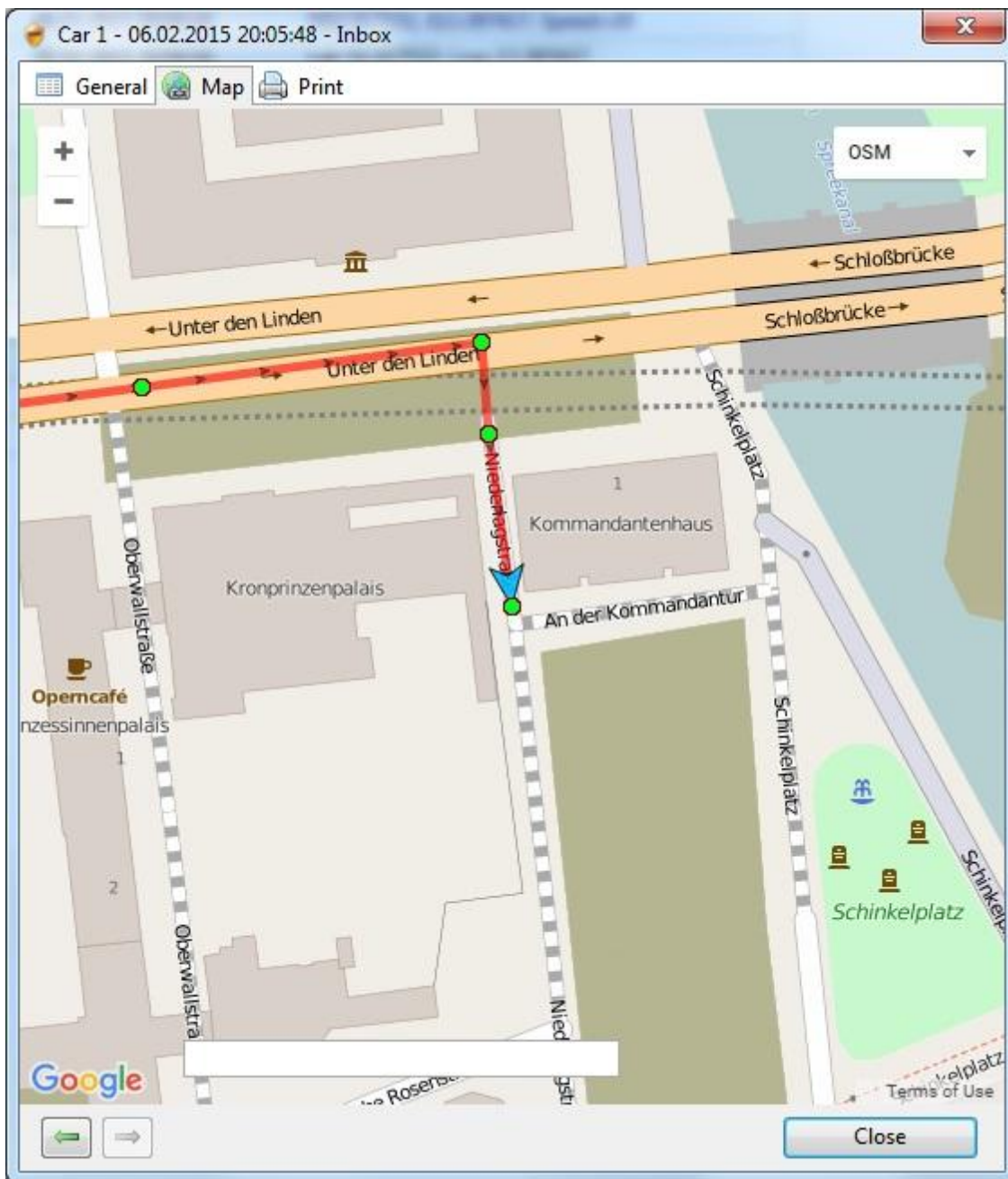
For a static object with predefined coordinates on the object card, the tab displays its position on the map:
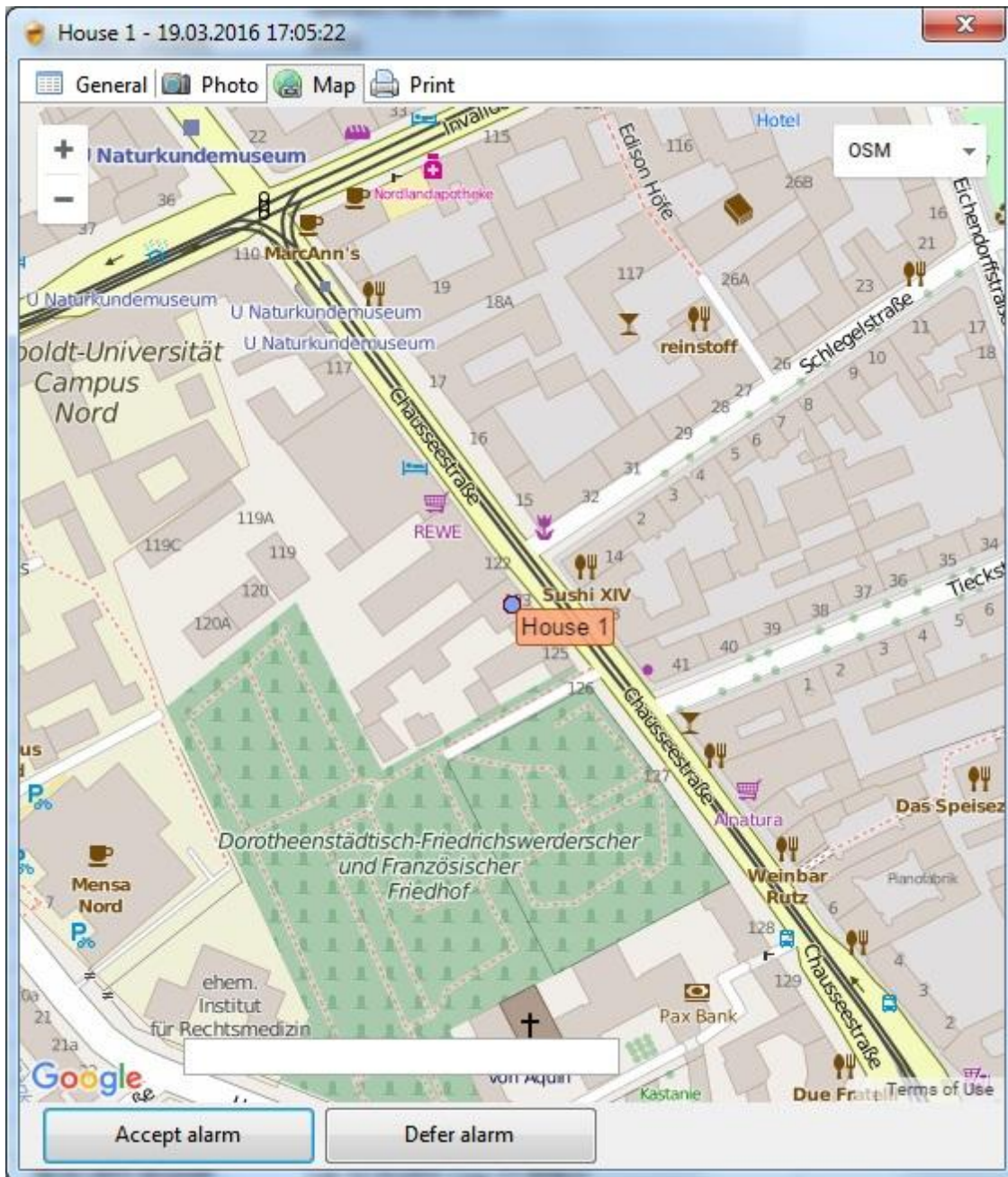
On the Print tab, you can see the summary on the object and print the information if necessary. To print it out, right-click on the window and then select Print on the menu that appears .
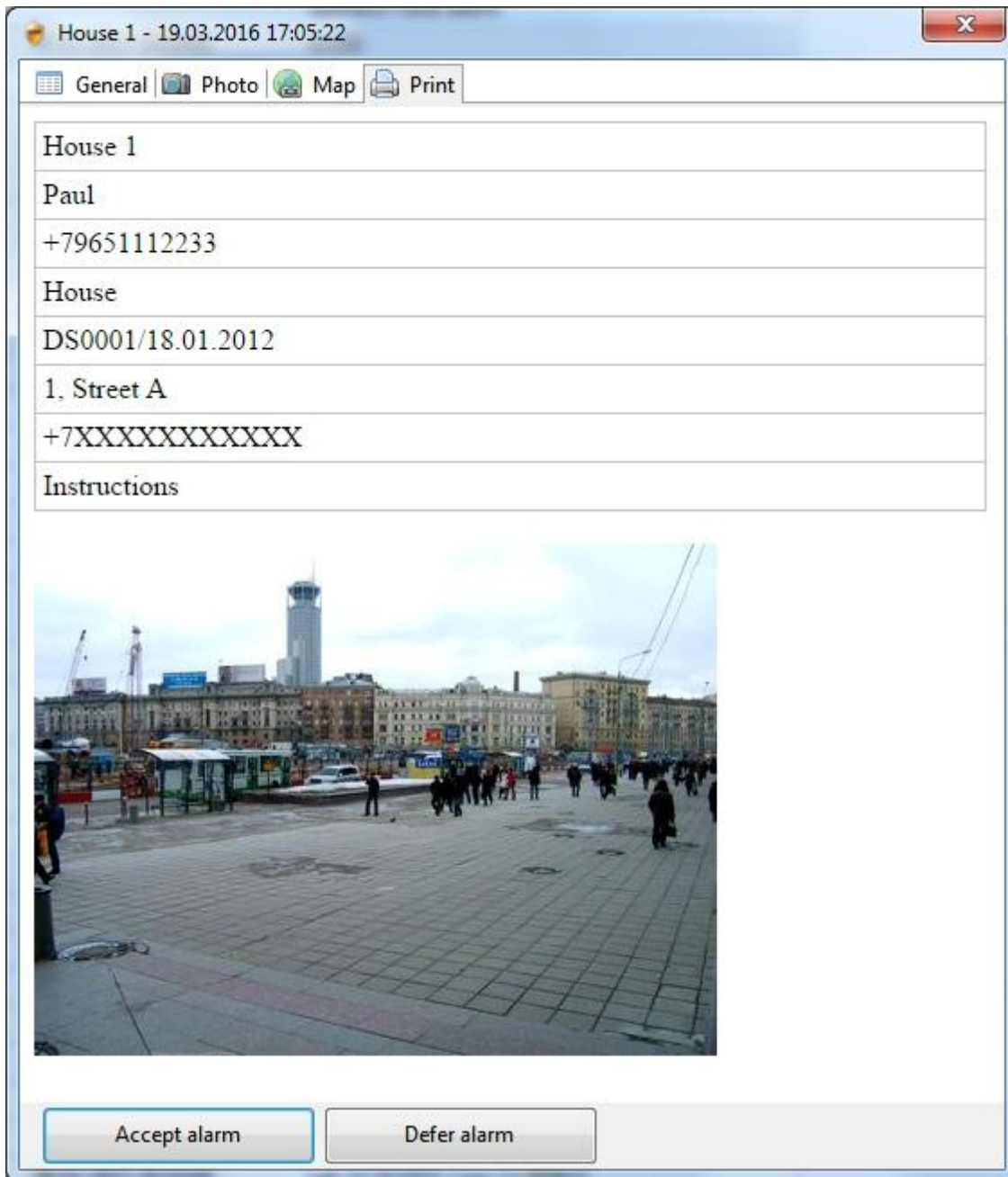
4.6 Statistics

On the Statistics tab, you can see the application's performance statistics.
The data is recalculated automatically every time the report is being opened.
You can set a custom time span for displaying statistics; to do so, in the first date filed select the report span beginning date and in the second field select the end date.

Statistics charts show the following:
1. Alarm messages for the period for all objects.
2. Alarm messages for the period for current object (selected on the list to the left).

3. Pie chart - distribution of alarm messages by objects.
4. Pie chart - distribution of alarm messages by alarm type (alarm causes specified in Settings/Keywords/Alarm causes).

In this report, you can switch the selector to get data for all or for current object.

If the application is used for monitoring parameters, you can build the dynamic chart for each individual parameter.
To do so, in the application's main window select the object and then double-click on the required parameter (Settings tab). The chart can be printed out or build in 2D or 3D. For more detailed and sophisticated analysis, use exporting all data to Excel.
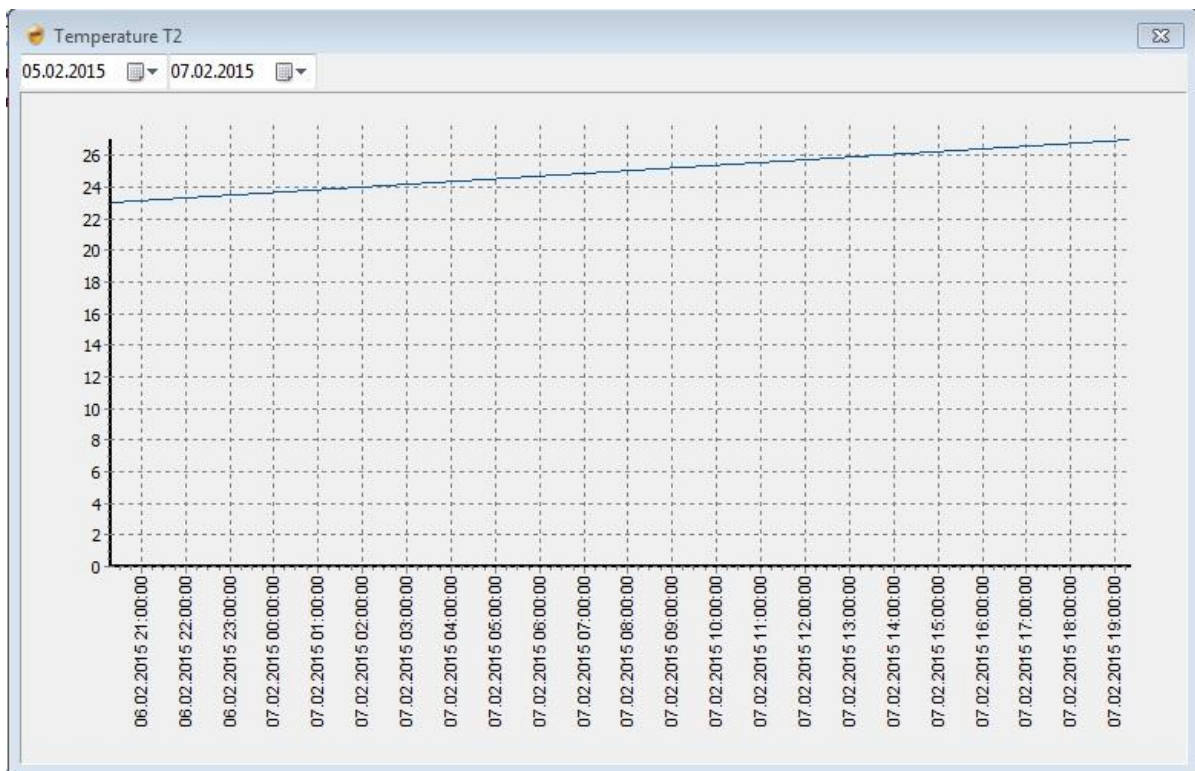
4.7   Map

GPS tracking allows monitoring mobile objects and displaying the position of static objects on the map by specifying the object's GPS coordinates in the object card.

The map is displayed using the tools provided in Google Maps API v3. The user can quickly switch between maps of various types.

GPS tracking requires connection to the Internet.
The program can get the object's coordinates from any messages. To ensure the proper performance of the GPS tracking feature, please configure the parameter of the GPS or GSM type in each object (see "Objects"). Besides that, you can define other parameters that come with the messages like speed, ignition on/off, distance, fuel reserve, etc. All the parameters you specify will be displayed in every point of the route (click on the point of the route to see the data).

The program filters out (if enabled, see Settings) points with zero speed or same coordinates if there are more than one such points in a row.
To enable the filter and to properly generate the route report, the object must have a parameter indicating its speed (of the Speed type).
It is also recommended to set parameters of the "Ext. power" and "Fuel" type for your objects.

To display the points and the route on the map, make sure to properly specify the date and time range. Switching between objects on the list automatically displays the route for the selected object on the map.
If you want to see the entire route, enable the "Entire route" mode. In this mode, the map indicates the entire route and displays all points of the route for the specified period.

If this mode is turned off, the map displays the last position of the object, including the last 30 points of the route (can be edited in config.cfg, parameter MaxPointTailCountOnMap).
The "Track" mode allows toggling the track mode for the current position of a mobile object on the map.

Points on the map are color coded:
1. Green - motion (speed greater than zero).
2. Yellow - stop (zero speed, ignition on).
3. Red - park (zero speed, ignition off, or static object).
4. Cyan - point received with no speed (GSM coordinates).

You can manage the position and the scale of the map using Google Maps standard controls available in the upper-left corner.

To display the route, click on the button with the red flags on the toolbar.
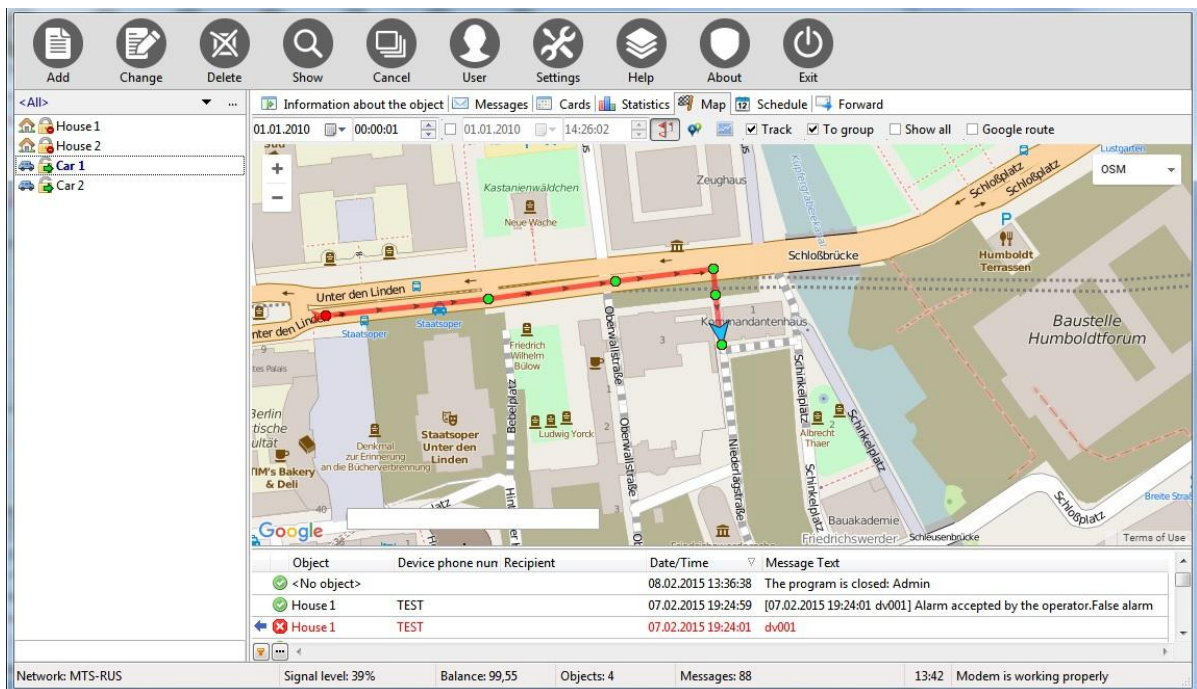
In the information window, for each point of the route you see (click on a point of the route):
1. Object name
2. Date and time of receiving the message
3. All parameters defined in the object
4. Nearest address on the map
5. Approximate distance from the previous and the first points of the current route.

To display the route plotted by Google, click the "Google route" button.
Attention! Google cannot always plot a route!

To display all objects' positions for the specified date and time (finish) click the A..B button.
Selecting a certain object category on the object list will display objects of that category only on the map. To display all object,
select category "All".

On the object list, you can select only necessary objects (using the Ctrl/Shift key and the left mouse button) for displaying on the map.
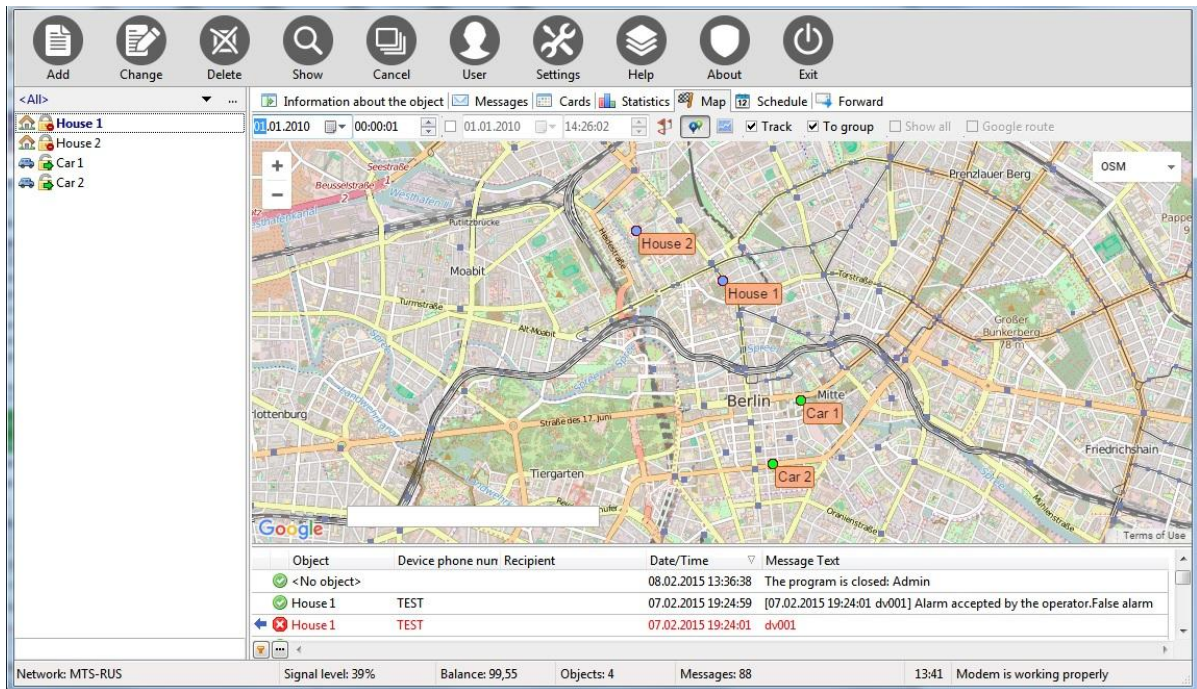
Using the next button, you can generate a report on the current route.

When an alarm message with coordinates for a mobile object is received by Operator, he can immediately see the current position of the object on the map in the Message window on the Map tab. Please find out more in "Alarms".

For static objects, you can use the map to set their coordinates.

Select the required object on the list, then click on the necessary point of the map while holding the Ctrl key down.

Selecting the "Group" option groups the nearest points on the map into one; the grouped points count is displayed on a special label.

Clicking on such label zooms in onto the map to the scale where you can see all the grouped points together.
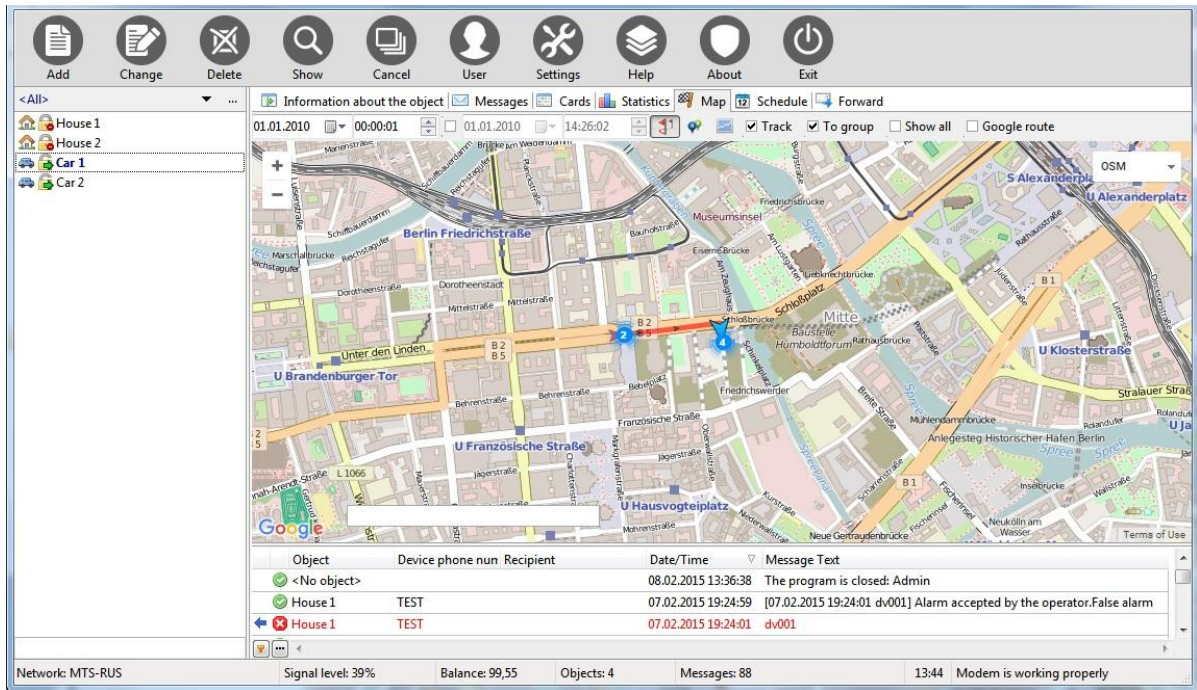
4.8   Schedule

The "Schedule" tab is used for scheduling commands to be run over objects automatically at specified time. You can schedule literally any event repetition mode.
Each event on the schedule is bound to an object and to one command (Commands tab in object card) any number of events can be created for one command. Any command type can be bound to an event.

Deleting a command or object automatically deletes the respective events.
If an event is no longer used, you should delete it to prevent overloading the database.

Here is what an event schedule looks like:
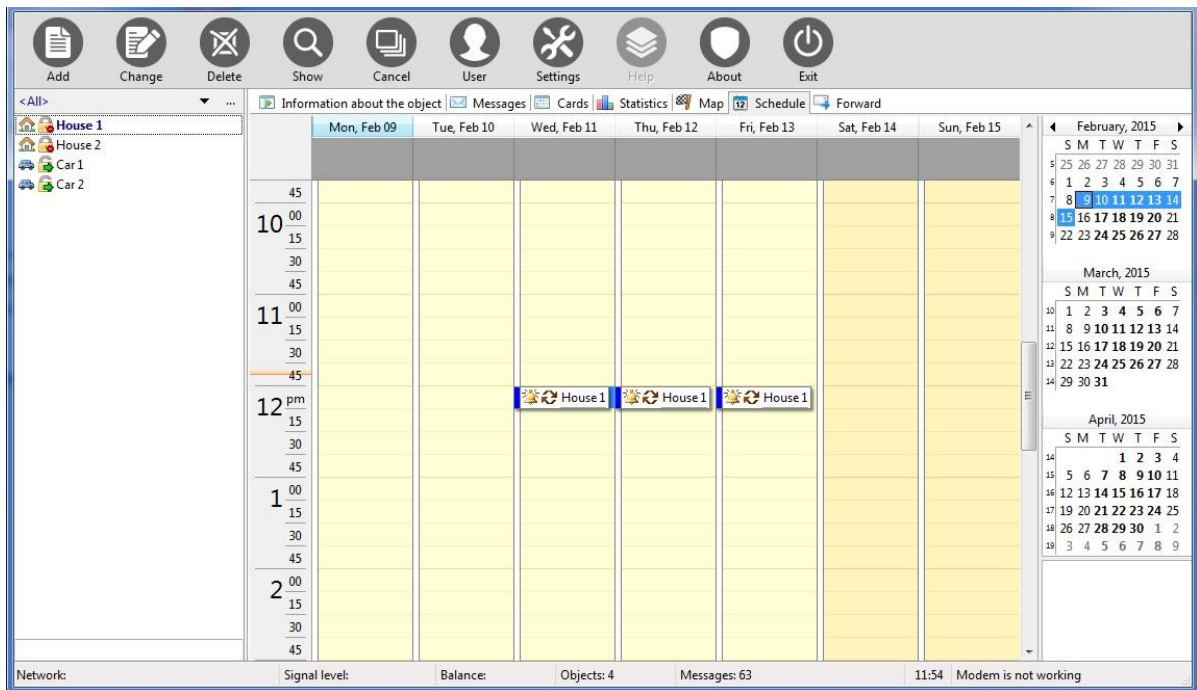
The workspace of the schedule allows you to see and manage all the events you have created. Placing the mouse pointer over an event displays the event time, object name, and command the event is bound to in the popup window.

To create a new event, select the object on the list to the left, then select the required date and time on the schedule and then right-click on it. On the menu tat appears, select the Create event or Create recurring event item.

Next, select the command the event is being created for. Only one command can be selected.
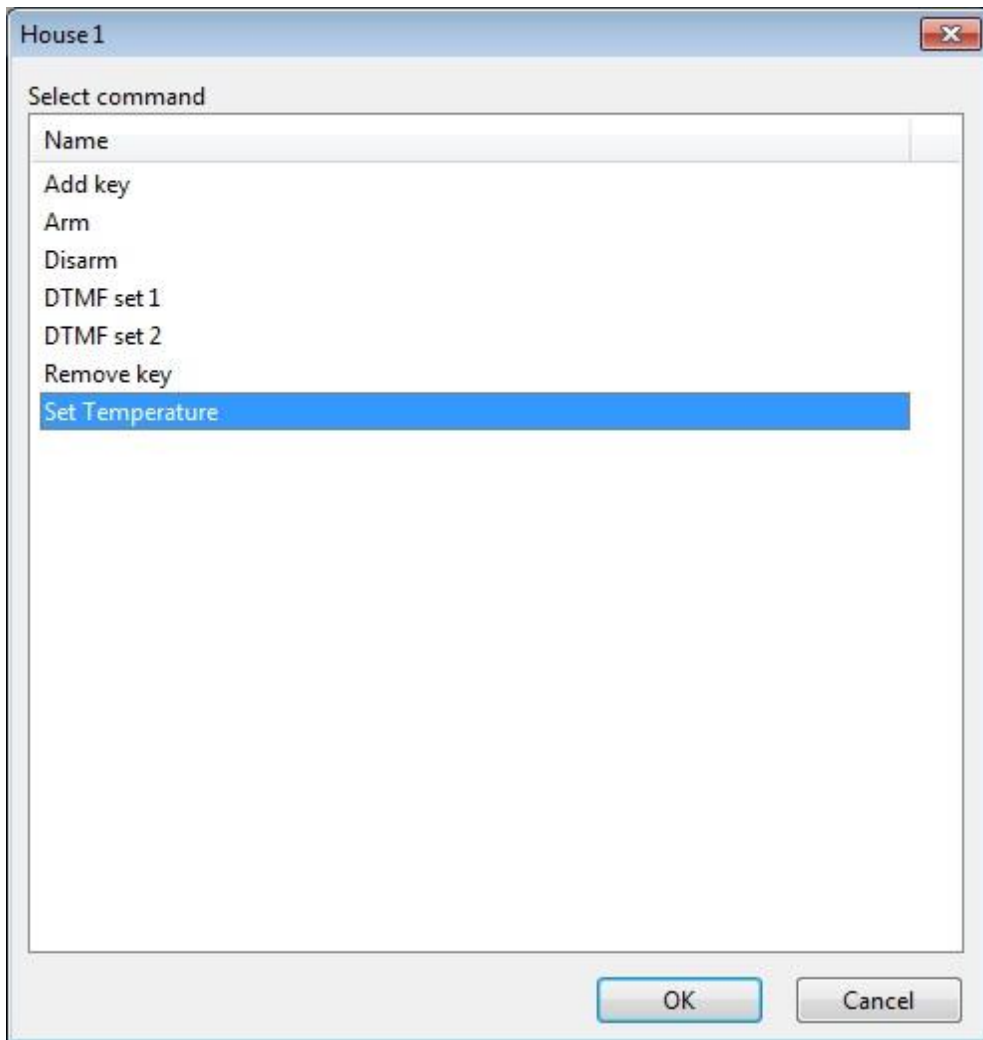
Once the command is selected, click OK; that will open the new event form. If the parameter you have selected contains a reserved word,
you will need to enter the required value before you can proceed. Thus the schedule will have the final command, which will be sent to the object.
The Subject and Description fields are filled automatically with respectively the object name and the command.
You can change the values in these fields.
The event will trigger only when the Reminder option is selected. Set the date and time in the Start time field as necessary.

If necessary, set up a recurring event by clicking the Recurrence button.
Set the event recurrence mode as necessary and then click OK.
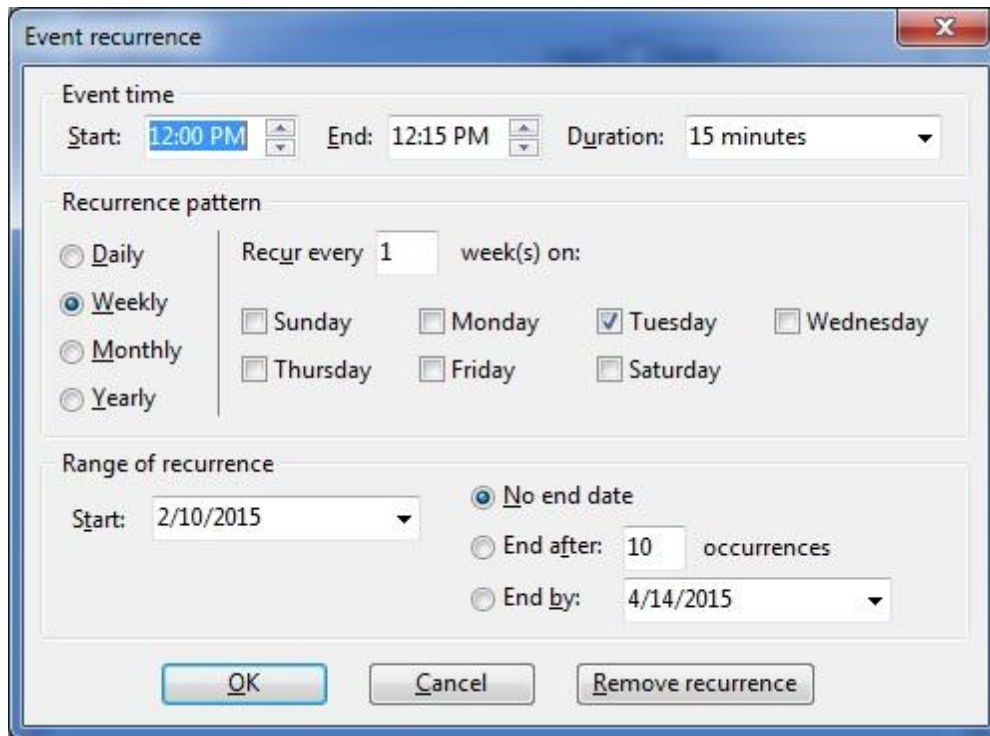
Once the event is created, it will appear on the schedule.

Existing events can be edited or deleted. Deleting an event does not delete the command. To edit an event, double-click on it and select the edit mode. To edit the entire series of a recurring event, select the "Open the series" item.
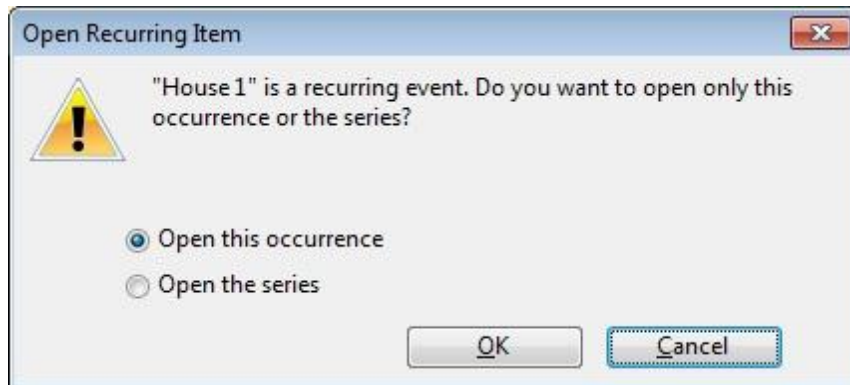
To delete a series or a single event, right-click on the event and then select Delete on the menu that appears.

You can use the schedule for running various commands at specified time and with specified frequency.

Commands of the Auto type are run with the frequency defined in the object card regardless of the schedule. You can additionally create events for them if necessary.

4.9   Forward

The "Forward" tab allows you to configure recipient lists and recipient groups.

To add a new entry, press Insert. To delete an entry, press Ctrl+Delete. To edit an entry, click on the field to be edited . When done, jump to another entry or click on the tick button at the bottom of the window.

At the bottom of the window, the following editing tools are available:
- Add entry
- Delete entry
- Edit entry
- Save changes
- Discard changes
- Refresh list

The Recipients list shows all parties who messages on objects should be forwarded to.
For each recipient, you can define 2 phone numbers for sending SMS, 2 email addresses for sending email messages and TelegramID for sending by Telegram.

Using electronic messages, you can implement data replication between remote central security offices.
Recipient groups are good for group messaging. Recipient groups are a flexible mechanism for setting up message forwarding. Using it, each recipient is entered into the application only once.

Example:
We have 2 objects, 3 recipients A, B and C. We need all alarms on object 1 to be sent to recipients A and B, and alarms on object 2 to be sent to recipients A, B, and C.
For that purpose, we create 2 groups; in the first one, we bind recipients A and B, in the second – A , B, and C. Configure Publications for the objects (see Objects).

Here is what the Forward tab looks like:
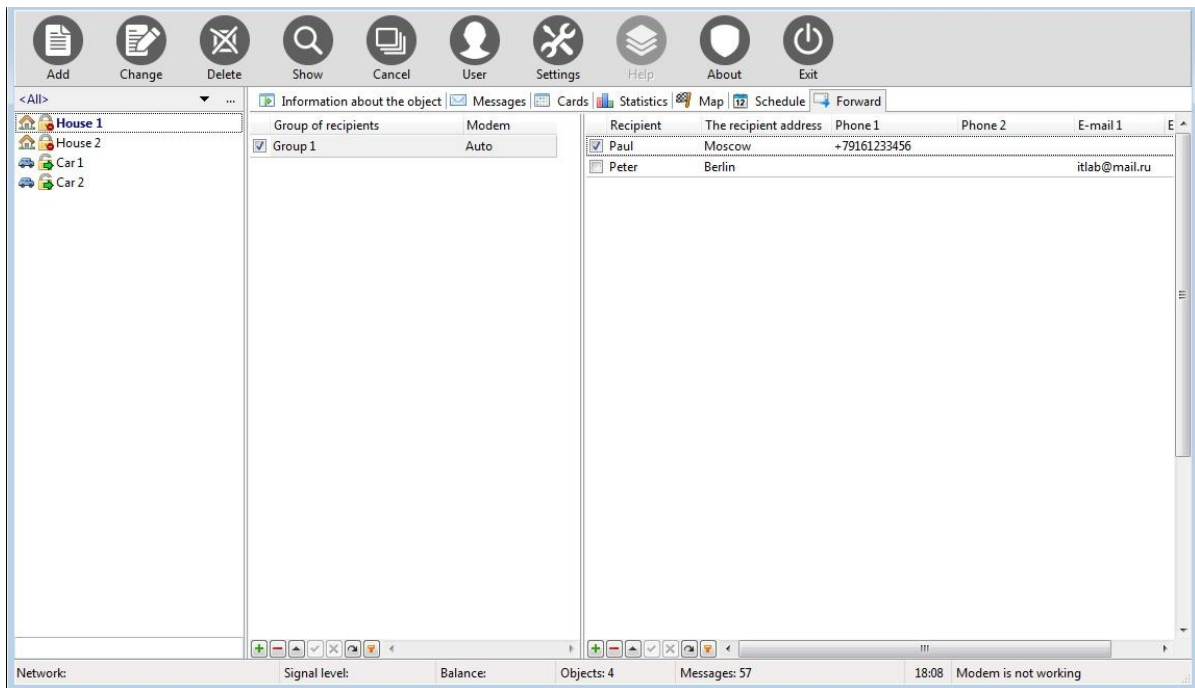
The tick on the Recipient group activates and deactivates the group.

In the Modem field, if necessary, you can enter the name of one of the modems installed in the application. In this case, SMS to the group will be send using this modem only .

The on the Recipient list defines whether the Recipient belongs to the group.

To add or remove multiple recipients, select the group and then select the recipients using the multiple selection method and then right-click on the selection. On the menu that appears, you can choose from the commands: Add to group, Remove from group, Export recipients.

To fill out the recipient list, you can take advantage of the import feature and fetch the data from a text file. Each line in the file matches one recipient. A line must terminate with the "carriage return" character.

All values in the file are delimited with the ";" character. The first field contains recipient name, second – address, then phone1, phone2, email1, email2, TelegramID.

Example of import file:
John;New York;+10001234567;;;
Mark;Berlin;+490001234567;+490001234589;mail@gmail.com;;TelegramID

To enable forwarding, you need to configure publications in each object. For more information, please see the Objects section of this manual.

Setting Telegram

Telegram - is a free instant messenger that works on most known platforms (Windows, Linux, Mac OS, iOS, Android).

Telegram allows free and fast forward any messages to the customer's phone.

To forward messages to Telegram account, you need to do:
1. register Telegram bot in any application Telegram to find special bot named **@BotFather**;
2. write him a command **/start** (list of all commands);

3. write him a command **/newbot** (creation of a new bot), come up with the name of the new bot (by this name it will be looking for in a telegram);
4. if successful returns a token bot (its unique number, for example: 443989572:BCVoO4x4rxpPZwM4fw1OEamEJ9-oygdZJbl);
5. open the **config.cfg** file located in the program folder in section [Telegram] to specify the value of the token in the field Token= and set Active=1;
6. restart the program, the program is ready for processing and sending messages Telegram.

Now all your client by knowing the name of the bot can find it in the Telegram by name. **The program should always be running, and need permanent access to the Internet!**
The client writes to your bot command **/start**. The program processes the message and adds to the list of recipients, a new record (you'll need to manually refresh the list) with the completed value TelegramID.
You need to include a new recipient to the desired group (to create a new, if necessary) and set in Published messages (see. section "List of objects").

4.10   Configuring GPRS/COM/POP3

Let's take a closer look at configuring the application for working with the GPRS, COM, and POP3 protocols.

Configuring GPRS (TCP/IP)

If the destination device transfers data in ASCII format (text format), then the program can process such packets without transformations.
To enable the server for processing TCP/IP text packets, include the handler in config.cfg, specify the required values for the IP address and port.

[TCPServer]
Active=1
BindingIP=0.0.0.0
BindingPort=9000

After receiving a text data packet, the program processes it as well as SMS. To bind a packet to an object, use any unique identifier that is normally transmitted in the data packet.
Typically, this is the IMEI or MAC address of the device. Configure the ID parameter for the object (see details below).
When the TCP/IP text processing server is enabled, the status line shows [TCPSrv].

In the event that the device transmits data in a complex binary form, the following feature should be used:

To be able to parse GPRS data, you will need to select the corresponding option in installation wizard ("Processing of data received over TCP/IP").
The wizard will install the GPS Tracker Data Logger application (http://aggsoft.com/gps-tracker-data-logger/). This application will receive GPRS data from trackers and send to our application.

Here you can find the list of supported trackers: http://aggsoft.com/gps-tracker-data-logger/gpstrackers.htm .

The list keeps being expanded. You can also contact AGG Software at http://aggsoft.com/support/contact.htm and request support for your tracker if it is not on the list.

Note: you should purchase the license with the corresponding option if you'll need to receive GPRS data.

With GPS Tracker Data Logger, you can receive and parse literally any GPRS traffic; you just need to have the description of the protocol. So, after a special setup you can parse any data transmitted over GPRS, including what's coming from security systems.
Configure GPS Tracker Data Logger as necessary: add TCP port and trackers.

Now, when our program is started, it will receive all data parsed by GPS Tracker Data Logger .
GPS Tracker Data Logger must be always running to feed you with GPRS data (starts automatically).

When connection with GPS Tracker Data Logger is successful, the application displays [GPRS] in the status bar. All GPRS packets being received are placed to the common message list.
To emulate interaction with GPS Tracker Data Logger, you can use a freeware application http://aggsoft.com/com-port-emulator.htm .

When a GPRS packet is received, we need to identify the transmitting device. But information on it is contained within the packet.
Therefore, to bind a GPRS packet to an object, we need to add a new parameter of the ID type to the object.

In the Key field, specify the parameter name in the GPRS packet, which contains a unique identifier of the transmitting device (e.g., ID= or IMEI=).
Enter the ID value for this object to the Value field.
All parameters defined for the object are extracted from a GPRS packet the same way as they are extracted from an SMS.

To speed up the object setup for working with a GPS tracker, you can take advantage of automatic object creation with required parameters from any message.
Simply have the program receive one message from the GPS tracker and then use the "Create object from message" function on the message list;
you create an object card with completed required parameters (Settings tab).

Configuring COM port (RS-232, RS-485)

The program can also parse data received from serial ports RS-232 or RS-485.

This can be useful for interaction with automated security offices , controllers, reception panels, and other devices.
For example, using an hardware-based security unit, which supports protocols **Ademco 685, SurGard, Egida, Altonika RS202 and Altonika RS202PN** , you can create a global software-based security unit, which would parse data received over radio, GSM, and other channels supported by the software.

To be able to parse RS-232/RS-485 data, you will need to select the corresponding option in installation wizard ("Processing of data obtained from a COM port").
The wizard will install the Advanced Serial Data Logger application (http://aggsoft.com/serial-data-logger.htm). This application will receive RS-232/RS-485 data from external device and send to our application.
To emulate interaction with Advanced Serial Data Logger, you can use a freeware application http://aggsoft.com/com-port-emulator.htm .

Note: you should purchase the license with the corresponding option if you'll need to receive data from a COM port.

Configure Advanced Serial Data Logger as necessary: select the COM port for connecting the automatic unit to the PC, on the menu "Modules/Request Analyze Filter", select the required parser in the "Data request module" and "Data parse module" fields.
For the COM port, set the required data transfer speed recommended by the manufacturer of the automated security unit (e.g., 2400).

Now, when our program is started, it will receive all data parsed by Advanced Serial Data Logger .
Advanced Serial Data Logger must be always running to feed you with the data (starts automatically).

When connection with Advanced Serial Data Logger is successful, the application displays [COM] in the status bar. All serial packets being received are placed to the common message list.

When a serial data packet is received, we need to identify the transmitting device. But information on it is contained within the data packet.
Therefore, to bind a serial data packet to an object, we need to add a new parameter of the ID type to the object (see above).

In the Key field, specify the parameter name in the COM packet, which contains a unique identifier of the transmitting device (e.g., OBJECT_ID=).
Enter the ID value for this object to the Value field.
All parameters defined for the object are extracted from a COM packet the same way as they are extracted from an SMS.

To speed up the object setup for working with COM port, you can take advantage of automatic object creation with required parameters from any message.
Simply have the program receive one message from the COM port and then use the "Create object from message" function on the message list;
you create an object card with completed required parameters (Settings tab).

For Altonika unit, create an object for parsing messages from the unit. That object's ID is 999. The easiest way to create an object in the application is using the received message, using the "Create object from message" command.

To connect several automated securty units to the application via several several COM ports, create a separate configuration for each COM port.
To avoid conflicts in the objects' IDs from different units, set an ID offset for objects within one security unit.
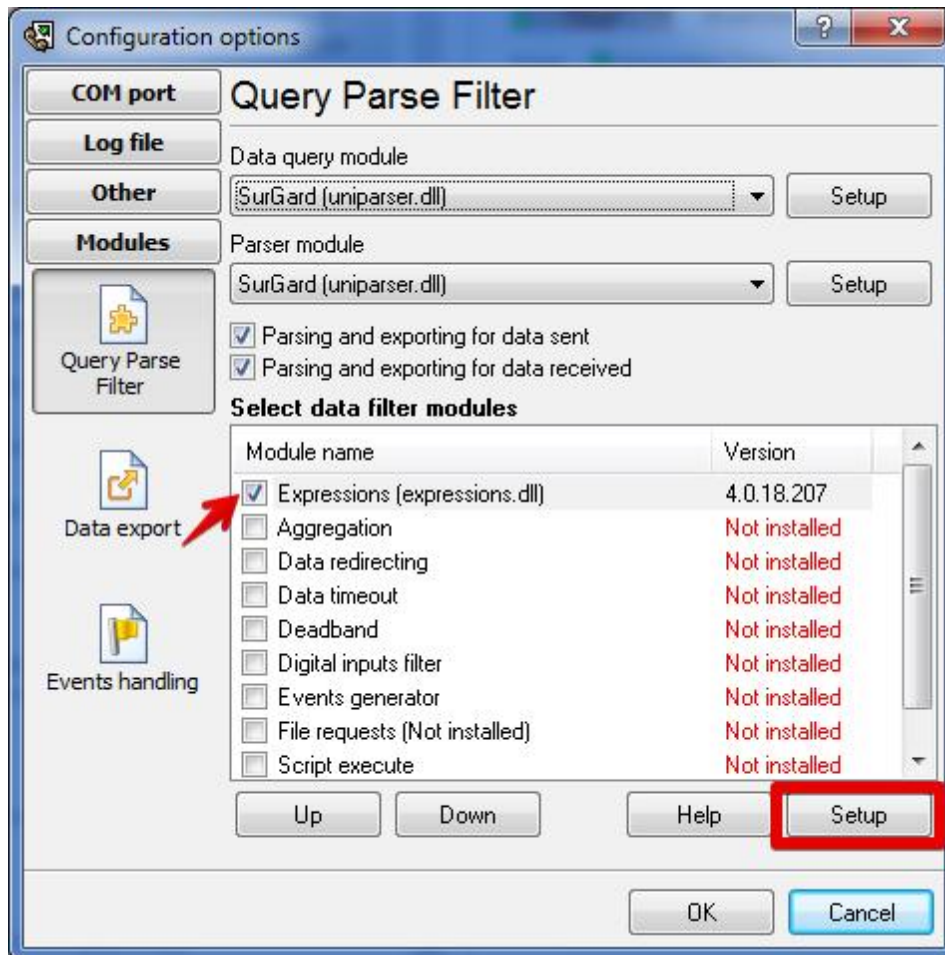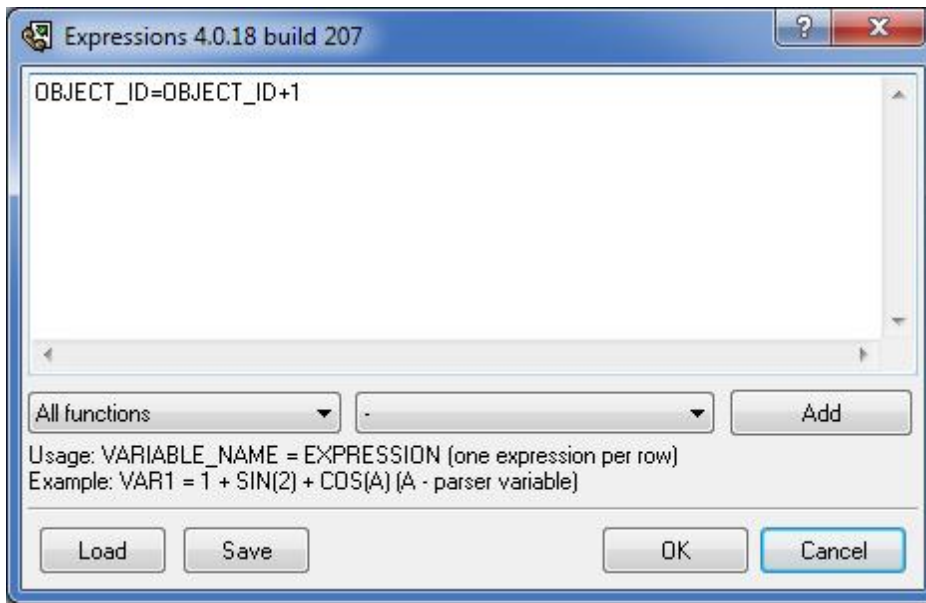
In this case, the object's ID receives one character to the right.
For example, if the object's original ID is 100, in the program the object's ID is 1001.

Configuring POP3

POP3 - is a standard protocol for receiving messages from any email server.
Email server settings can be configured in the config.cfg file, for example:

[POP3]
Active= 0
TLS= 0
ServerAddress= pop.gmail.com
User=
Password=
Port= 110

Specify the server address, user name, and password for your email account.
To activate receiving messages via email, set the Active parameter to 1 (Active= 1).
To use secure connection, enable TLS= 1and set the port number to 995 (most likely; ask your
provider).
Every minute the application connects to the email server and retrieves all messages from it.

Once retrieved, the messages are deleted from the server !

If an email message contains photos (JPG, JPEG, PNG, BMP), the program automatically attaches the
photo to the message, and the photo file is placed to the \images folder.
When you open the message, you can always view the attached photo on the Photo tab.
Along with photos, you can transmit any other information messages to the security unit using POP3.

To bind a message to an object, add a new parameter of the ID type to the object (as described above).
All parameters defined for the object are extracted from an email message the same way as they are
extracted from an SMS.

4.11 Web server

Objectives and features

The internal Web server allows the application to give users access to information on objects from anywhere in the world through the Internet (via computer, phone, smartphone or tablet).

For security reasons, users cannot modify the information; they can only view it and send predefined commands .

The Web application allows users to:
1. Select an object on the list of objects available to user (web login and password in object card).
2. List messages on the object, open photos attached to messages.
3. View current parameters of the object and parameter dynamics chart.
4. Send command to object (including reserved words #PWD#, #VALUE#).
5. Accept and process alarm messages (see Description in config.cfg).
6. View object's route on the map, object's location, generate report on route.
7. View statistics on all object, which user is allowed to access.

For commands sent from the web application, the program parses only the following reserved words:
#PWD# - substitutes object password.
#VALUE# - user enters value for substituting it to command being sent (e.g., "Temp.R=#VALUE# 00000").

The application displays all information in real time .

The application's internal web server also allows receiving messages from any other services and applications via the Internet using the GET and POST commands.
For that purpose, a request should be sent to the server in the following format:

<Server_Address>/send.html?
login=<login>&pwd=<password>&phone=<phonenumber>&mes=<message text>

Login and password may belong to any user registered in the program.
Phone number - object phone number (may be left blank).
Message text - any message text.

Configuration and usage

By default, the application's Web server is disabled.
To enable the Web server, in the config.cfg file set the Active parameter to "1".

When configuring the server to **not use SSL**:
[WebServer]
SSL=0
Active=1
BindingIP=0.0.0.0
BindingPort=80

When configuring the server to **use SSL**:

[WebServer]
SSL=1
Active=1
BindingIP=0.0.0.0
BindingPort=443
CertPFXFile=gsmguard.pfx
KeyPassword=aaaa

Where:
CertPFXFile - path to SSL certificate file (PFX file).
KeyPassword - password to access SSL certificate.
BindingIP=0.0.0.0 or 127.0.0.1 - only for accessing the local web server.

If the web server is properly configured, the status bar of the application's main window will have the [WEB] or [WEB SSL] text.
For securing the connection, the application uses the SSL (minimum TLS 1.2).
The software comes with demo SSL certificate for establishing an SSL connection with the server.

It is illegal to use them when running the software in production mode !

To use SSL in production mode, you can purchase any SSL certificate (just google up: purchase SSL certificate).
After editing config.cfg, please restart the application .

To allow users to access an object, specify its Web login and Web password on the object card. To allow one user to access several objects , simply specify the same login and password in all the objects.
To verify the settings, you can open a web browser on the same computer and type:
http://localhost or https://localhost (for SSL connection) in the address line.

For the correct operation of Google Maps requires a special key. We have established a key card for the initial work (see. config.cfg).
[WebServer]
GAPIKey = ...

But it does have limitations, so it is desirable, with the active use of Web applications to install your key. Make it is not difficult.
Detailed information is available here: Google Maps API Key. Press the button to generate a key "GET A KEY".
The resulting key set in GAPIKey option.

To ensure the proper operation of the web application in your browser (we recommend Google Chrome), make sure to allow running JavaScript, allow saving Cookies, and disable blocking popup windows.

This opens the application logon screen with fields for entering login and password.
To make the application accessible from the outside, your computer must have a static global IP address, which can be bound to your DNS name.
If you can't do that, you can use free services, which allow defining global DNS names and then "bind" them to a dynamic IP address (google up: dynamic dns). To obtain a static IP address, please contact your Internet service provider.

This job is doable for any administrator.

To display the object's photo and map on the object card in the web application, place the respective files to any subfolder of the application's main folder in Program Files.

The photo must be a JPG (JPEG) file; the link to the map can be added in an HTML file generated, for example, with Google Maps (Link - HTML code for adding to website).

Security

Certainly, security aspects in this case are crucial .

They can be split in two parts:
1. Network security
2. Software security.

Network security assumes taking certain measures to ensure safety of the Internet channel from various outside threats.

Delegate the configuration of your web server to a qualified administrator. Make sure to install and configure a software or hardware-based Firewall , which will defend the internal network from external unauthorized intrusions. Open only the required port for accessing the web server (80 or 443 depending on the protocol you have set for the web server).

Application security is determined by the developer. The application uses an internal Web server, which is design for medium loads and does not demand significant computing resources. At the same time, the application and its data are completely isolated from the Web server. There is no way to gain access to the application or the PC data through the web server, much less compromise it. The SSL protocol ensures reliable encryption of all data transmitted over the Internet.

By accessing the application through the standard HTTP/HTTPS protocol, user can only receive data that was originally intended for him.

4.12   For the Administrator

Program Administrator's duties:

1. Configure the program.
2. Monitor the operation of the system on the regular basis.
3. Administer the operating system - maximum possible limitation of PC operators' privileges and no unnecessary software
4. Periodically backup program's data to external media.

Instructions on configuring MySQL/PostgreSQL DBMS:

1. Replace the current Database section in your config.cfg file with the one from config.cfg.mysql (config.cfg.postgresql).
2. Install MySQL/PostgreSQL database server (with UTF8 encoding); the database server can reside in any computer within your local network.
3. In MySQL/PostgreSQL, create a database (schema) with UTF8 encoding with the name specified in your config.cfg file (DatabaseName=).
4. In MySQL/PostgreSQL, add user "Admin" (or use any other administrator name) with all privileges to manage the database.

5. Run the program for the first time as "Admin"; the program will create all necessary objects in the database automatically.
6. If necessary, add other users to MySQL/PostgreSQL and grant them access to the database (you can keep their privileges at the minimum: reading/writing to DB tables).
7. All database users' names MySQL/PostgreSQL must match the names in the program; the users' passwords are no longer important (authentication is carried out on the DB level).

MySQL and PostgreSQL are distributed free of charge.

You can download the distributives at:

MySQL:
http://dev.mysql.com/downloads/mysql/

PostgreSQL:
http://www.enterprisedb.com/products-services-training/pgdownload#windows

4.13   For the Operator

Hotkeys

Hotkeys allow user to carry out operations in the program without using the mouse.

Hotkeys available to object list:

Hotkeys available to message list :
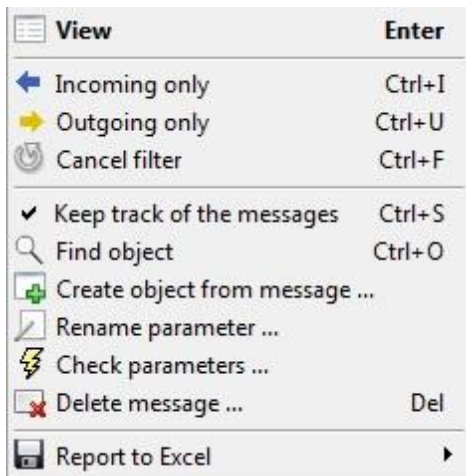
Other commands:
Alt+F4 - closes the application.
F1 - opens this help file.
F9 - updates information on the status bar.

4.14   Description of config.cfg

File config.cfg is provided for fine-tuning the application.

The application's basic functions do not require modifying any settings.
File config.cfg is located in the application's folder. It is recommended to backup the original file prior to making changes in it.
Once all changes are made, the application should be restarted. When upgrading the application, all changes made to config.cfg are preserved.

[MainForm]
Debug=0
toggles application debugging
MaxFetchRows=1000
maximum number of rows displayed in the message list; greater number means slower performance
GlobalParamChar=#
global parameter marker in command line
PwdValueStr=PWD
keyword for substituting password to command
DateTimeValueStr="SETDATETIME_"
keyword substitution date and time in the command (date and time format of the keyword, for example,
SETDATETIME_ddmmyyyy hh:mm, then date and time in the command will be in the format
ddmmyyyy hh:mm)
AlarmClockValueStr=AlarmClock
keyword for substituting alarm clock settings to command (for Autophone)
ParamValueStr=VALUE
keyword for substituting user-provided value to command
SelectParamStr=PARAMS
keyword for substituting selected parameter to command
PhoneNumberMinSymbols=12

minimum number of characters in phone number
DevPhoneNumberMinSymbols=12
minimum number of characters in object phone number
CancelAlarmAdminMsg=1
administrator can accept alarm
AutoBackupInterval=24
hours to automatic backup
BackupPath=
specify folder for storing automatic backups (path must be **terminated by "\"**)
MaxPointCountOnMap=1500
maximum number of points on map
MaxPointTailCountOnMap=30
number of points in route trail on map
HidePwd=1
hide password in messages sent by operator
TabChar=59
delimiter for generating CSV files
MaxRetrySendMessage=10
maximum attempts to send command
IgnoreVoiceControl=0
toggle parsing results of outgoing voice call

[AlarmMessage]
SleepCount=7
items in menu Defer alarm message
SleepItem1=3
menu item, duration in minutes
SleepItem2=5
SleepItem3=10
SleepItem4=30
SleepItem5=60
SleepItem6=180
SleepItem7=360
on/off alarm message form
Hide=0

[Modem]
HungUp=+CLCC: 1,0,0
detect subscriber status: answered
Busy=NO CARRIER;BUSY
detect subscriber status: busy
NoAnswer=NO ANSWER;NO DIALTONE
detect subscriber status: no answer
IncomingCall=+CLCC: 1,1,4
detect incoming call
NewMessage=+CMTI:
detect new incoming SMS
DetectHungUp=1
detect answer
DetectBusy=1
detect busy
VoiceCallTimeout=60000
voice call timeout

VoiceCallRetry=3
number of voice call attempts
SkipBalanseCount=6
skip balance check this number of times (balance check runs every 2 minutes)
IsModemSignalError=1
toggle modem error signal
IsDateTimeFromSMS=1
get date and time from SMS
SMSTimeStamp=TIMESTAMP=
keyword for identifying date and time in SMS(separate multiple keywords with ";")
AutoChangeDevicePhone=1
toggle automatic change of object's active number: primary/alternative
ValidityPeriod=7D
SMS lifetime in SMS center
LifeTimePart=240
minutes to wait for remaining parts of message; upon expiration, all parts are parsed by the program
separately
IncomingVoiceCallAsAlarm=1
toggle treating incoming voice call as alarm
IncomingVoiceCallHungUp=1
toggle accepting incoming voice call (answer)
IncomingVoiceCallHungDown=1
toggle automatic declining of incoming voice call (hang up)
OperatorName=AT+COPS=3,0,1
modem command to initiate detection of network name
RestartModem=AT#ENHRST=1,0
modem command for immediate reboot (check with manufacturer)
CheckCOMPort=1
if 1, then in the modem settings in the list of available COM ports are displayed only connect the
modem

[MsgHandler]
EndListChar=#
terminating character for parameter list
GlobalParamStartChar=(
beginning of global parameter list when displaying
GlobalParamEndChar=)
end of global parameter list when displaying
NumericFloatCharSet="0123456789,.+-"
character set for float numbers
NumericDecCharSet="+-0123456789"
character set for integer decimal numbers
NumericHexCharSet="+-0123456789ABCDEFabcdef"
character set for integer hexadecimal numbers
AlphabetCharSet="0123456789,.+-_ :"
character set for string
KsytalInputCharSet="nxXLH"
character set for Ksytal entries
DateTimeCharSet="0123456789.:/ APM"
character set for date and time
MinSpeed=1
with GPS coordinates filter enabled (Settings), you can specify the minimum speed (km/h), which will
be treated as stop/park; useful for allowing tracker errors

DetailModeEnabled=1
toggle detailed parsing of incoming messages from COM and GPRS
AddParameterEnabled=1
if on, then add to messages all parsing parameter
LifeControlAlarm=1
alarm checking connection with object

[Modem_Init]
modem initialization on startup
Count=6
Str1=AT+CNMI=2,1,2,2,0
Str2=AT+CSSN=1,1
Str3=ATS0=0
Str4=AT+CSTA=145
Str5=ATS7=40
Str6=AT#ENHRST=0

[Geocoding]
geo-coding settings
Google="https://maps.googleapis.com/maps/api/geocode/json?ie=UTF8&latlng=%.7f,%.7f&language=
%s&sensor=false"
GoogleAddress=""formatted_address" : ""
Yandex="https://geocode-maps.yandex/1.x/?geocode=%.7f,%.7f&sco=latlong&format=json&lang=%s"
YandexAddress=""text":""
GoogleHRef="https://maps.google.com/?q=%.7f,%.7f&z=16"
YandexHRef="https://maps.yandex.ru/?text=%.7f,%.7f&z=16&l=map"
GSMCoord=https://www.google.com/glm/mmap

[Database]
DB settings (for MySQL and PostgreSQL, settings can be taken from respective config.cfg)
//ProviderName: SQLite, MySQL, PostgreSQL, SQL Server
ProviderName=SQLite
DB provider
CreateTable=1
create tables on startup
FileDBBackup=1
automatically backup database (useful for SQLite of not too great size)
ServerName=
server name or IP address of DBMS (see "For the Administrator")
ServerPort=0
port number of DB server
DatabaseName=
Database name
Charset=
charset of database
SQLLastMsgIDQuery=select last_insert_rowid()
get last added message ID
SQLLastObjIDQuery=select last_insert_rowid()
get last added object ID
SQLLastRecipGroupIDQuery=select last_insert_rowid()
get last added recipient group ID
SQLLastRecipIDQuery=select last_insert_rowid()
get last added recipient ID

SQLDateTimeFmt=strftime('%Y-%m-%d', dateTime)
generate date and time for displaying statistics
DateTimeFormat=yyyy-mm-dd
date format for generating SQL queries

[WebServer]
SSL=0
toggle SSL for web application
Active=0
toggle internal web application
BindingIP=0.0.0.0
web application IP address
BindingPort=80
web application port
//BindingPort=443
CertPFXFile=gsmguard.pfx
SSL certificate file for web server (PFX format)
KeyPassword=aaaa
password for SSL certificate
Ciphers=TLSv1
ciphers for SSL connection
MapRefreshInterval=1
map refresh interval in web application (by 15 seconds)
WebAlarm=1
toggle alarms in web application
WebCancelAlarm=0
toggle alarm processing in web application
Cache=1
toggle caching files in web application
MapColCount=4
maximum number of object cards per line, Cards tab
ObjectListWidthPX=250
object list width on Cards tab (in pixels); if 0, width is defined automatically, by maximum object name length
GAPIKey=
API key for Google Maps API (see: Google Maps API Key)

section for configuring TCP/IP processing server (only ASCII format)
[TCPServer]
Active=0
On/off server processing packages on TCP
BindingIP=0.0.0.0
IP address for the TCP processing server
BindingPort=9000
Port address for the TCP processing server

section on creating object from message
[OBJECT]
ID=DEVICE_ID=,IMEI=,IMEI:
key for object ID
GPS=LATITUDE=;LONGITUDE=
key for GPS coordinates
GSM=MCC:;MNC:;LAC:;CID:

key for GSM coordinates
Password=PASS:,PASS=
key for password
Speed=SPEED=,Speed:
key for speed
Altitude=ALTITUDE=,Altitude:
key for altitude
Angle=ANGLE=,ANGLE:,Angle:
key for heading
Name=NAME=
key for object name
Owner=OWNER_NAME=
key for object owner
DevicePhone=DEVICE_PHONE=
key for device phone number
Address=ADDRESS=
key for object address
VExt=VEXT=
key for ignition voltage
Fuel=FUEL=
key for fuel level
Satellites=SATELLITES=
key for satellite count
Vin=VIN=
key for internal battery voltage
Tin=TIN=
key for internal temperature
EventMessage=EVENT=
key for code and type of message ContactID
SectorID=SECTOR_ID=
key for partition of message ContactID
UserData=USER_DATA=
key for zone/user of message ContactID

[GPRS]
Active=0
toggle connection with GPS Tracker Data Logger
GPRSTimeStamp=TIMESTAMP=
key for obtaining date and time from message (separate multiple keys with ";")

[COM]
Active=0
toggle connection with Advanced Serial Data Logger
COMTimeStamp=TIMESTAMP=
key for obtaining date and time from message (separate multiple keys with ";")
TestMessageText=IS_TEST_MESSAGE
test message identifier key
COMBroadcastMessages=EVENT=E602;EVENT=E603
periodic Contact ID events for controlling communication with the object
MessageTimeout=30
message waiting time in seconds; if no message received within this time, issue alarm on security unit
error

[POP3]
configure POP3 protocol for receive email messages
Active=0
toggle parsing incoming email over POP3 protocol (**Note:** processed messages are deleted from the server !)
SSL=1
toggle SSL/TLS mode
FullSSL=1
toggle full SSL/TLS mode usualy using non-standard TCP port
ServerAddress=pop.gmail.com
mail server address
User=
user name
Password=
password
Port=995
//Port=110
port for accessing mail server

[SMTP]
configure SMTP protocol for sending messages via email
SSL=1
toggle SSL/TLS mode
FullSSL=1
toggle full SSL/TLS mode usualy using non-standard TCP port
ServerAddress=smtp.gmail.com
mail server address
User=
user name
Password=
password
Port=465
//Port=25
port for accessing mail server

[SMPP]
configure SMPP protocol for sending and receiving SMS via Internet without modem
Active=0
toggle SMPP
Host=smppserver
server address (ask your service provider for information on server settings)
Port=3700
port
SystemID=
login
Password=
password
DeliveryReport=1
toggle SMS delivery report
UCS2=0
toggle UCS2 encoding for sending non-Latin texts
SenderID=
sender number or name

Payload=0
toggle sending SMS via Payload; e.g. for sending long non-Latin messages

[Telegram]
Telegram bot configuration for forwarding messages in the account Telegram
Active=0
on/off handler incoming Telegram messages
Token=
specify the token ID is your Telegram bot
ClearLastID=0
Set to 1 if you want to reset the value of the last incoming message

[Replication]
Configuring the replication of messages using HTTP POST to any server in JSON format
Active=0
On/off replication
URL=
Server address for replication
OnlyAlarm=1
Replicate only alarms

Example of a handler in PHP:

```
$f = fopen('php://input', 'r');
$data = stream_get_contents($f);
If ($data) {
   print_r(json_decode($data));
}
```

[ControlTab]
additional tab in application for displaying file or URL in browser window
Enabled=0
toggle tab
Url="file:///"
path to file or URL
Caption="Control Panel"
tab name

5   License

One license entitles you to use the software on one computer. During the registration, you obtain a key, which is "bound" to this specific PC.
When transferring the software elsewhere, you will need to generate a new key.

To register the software and generate the key, you need the following data:
1. Your e-mail address
2. Your name or company name the license is issued to
3. Phone (recommended)
4. License type
5. Hardware ID - value specified in the "About" window.

The trial version of the software allows using all functions of the software for 30 days for 10 monitored objects.
You can see your license type using the "About" icon.