GSM GATE
CONTROLLER ESIM120

GPRS USER
MANUAL

eldes

CONTENT

1. Operation description

Since July 2010 software supporting GRPS connection is installed in automatic gate controller ESIM120. The users will be able to quickly perform configurations not only connecting the device to their computer but also remotely – using web browser.

GPRS connection is activated according to the standard GPRS parameters which are stored in device memory or according to one-time GPRS parameters. These parameters are activated by sending the corresponding command via SMS message. One-time GPRS parameters are valid only for one connection session (the system uses standard GPRS parameters with one or several indicated changes). Standard GPRS parameters (Table 1) are changed by SMS messages, using special software or by connecting via web browser.

One of the main GPRS parameters is the mode, i. e. Server or Client, which describes the way ESIM120 configuration web environment is reached i. e. connecting directly to the device or through transitional server. In this case after activating Client mode the administrator will be able to connect to the device through the internet website defined by the provider and the connection will be maintained through the transitional server. After activating Server mode the administrator connects directly to ESIM120 using web browser. However, this mode will operate only in the case GSM operator of the SIM card used in the device provides a static IP address. It is also necessary to mention that GPRS connection is activated only for a particular period (session time) and after this period is over it is ended automatically. In such a case, if the administrator wants to continue configuring ESIM120 it is necessary to reactivate GPRS connection and to connect using the new login data.

Before activating GPRS connection, administrator must ensure the following conditions:

- ESIM120 is with a SIM card placed in it.
- Power supply is connected.
- The default 4-digit password is changed to a new one and your mobile number is uploaded as administrator mobile number.
- The device isn't connected to computer with USB cable.

A short description of actions that should be taken in order to successfully use ESIM120 configuration web environment:

1. If requested, corrections are made in the standard GPRS parameters (refer to chapter 2.1 Configuring standard GPRS Parameters);
2. The administrator sends SMS message with GPRS activation command from the mobile phone number registered in the system (refer to chapter 2.3 GPRS Activation);
3. The system sends SMS message with login data (username and password) necessary for connecting to ESIM120 configuration web environment;
4. The administrator opens a corresponding web page (the address is formed depending on the running mode (refer to chapter 3.1 Login to configuration webpge);
5. Configurations or other actions are made in ESIM120 configuration web environment (refer to chapter 3);
6. If session time is not ended after all the tasks are performed, end the connection by sending a corresponding SMS message (refer to chapter 2.4 Additional Commands via SMS messages -> Ending the Session).

ATTENTION: by factory default settings the administrator can connect to ESIM120 device using a connection form provided in www.eldes.lt/login, and the connection is maintained through ELDES server (ESIM120 works in Client mode with defined ELDES server parameters).

2. GPRS configurations and activation

> **ATTENTION:** In the examples of SMS messages in this manual 'XXXX' means your 4 digit password, '_' (underscore symbol) – space typing.

2.1. Configuring standart GPRS parameters

Standart GPRS parameters are entered by SMS messages in the following format:

```
xxxx_setgprs:settings:parameters
```

Here in the place of "settings" and "parameters" enter the corresponding commands from Table 1. For example, sending SMS message „1111 setgprs:type:client" you indicate to ESIM120 to work in Client mode from the next session. All standart GPRS parameters with detailed information is provided in Table 1.

To specify more than one parameter, you have to separate settings and parameters with ';' symbol (for example, sending SMS message „1111 setgprs:type:client;ip:192.168.1.1;port:15000" you indicate to ESIM120 to work in Client mode with indicated server ip address and port number):

```
xxxx_setgprs:settings1:parameters1;settings2:parameters2;...;setting
sN:parametersN
```

Instead of text "Settings1", "Parameters1", "Settings2", "Parameters2", "SettingsN" and "ParametersN" use the corresponding commands form table 1.

2.2. Standart GPRS parameters

Table 1

Settings	Parameters	Description	Mode*
type	client / server	Choose Server mode if you want to connect directly to the device using web browser (inserted SIM card must have static IP address). Choose Client mode if you want to connect through www.eldes.lt website (by default settings).	-
profile	Code name	The code name of the standart GPRS parameters. Configurable only by software or using web interface.	Both
ip	IP or DNS address	Remote server IP address or domain. It is recommended not to change default paramater.	Client
port	xxxx	Remote server parameter. It is recommended not to change default paramater.	Client
dns1	IP address	Top-level DNS Server IP address. It is recommended not to change default paramater.	Client
dns2	IP address	DNS Server IP address. It is recommended not to change default paramater.	Client
lport	xxxx	Computer TCP port used for communication with the device.	Server
timeout	xx	Time of one session; when this period expires the administrator has to reconnect with new login data.	Both
protocol	TCP / UDP	Data transmission protocol. It is recommended not to change this default parameter.	Both
apn	-	GPRS diversion point provided by the GSM operator of the used SIM card. Entered only in the case if GSM operator requires it.	Both
user	-	GPRS username (provided by the GSM operator). Entered only in the case if GSM operator requires it.	Both
psw	-	GPRS user password (provided by the GSM operator). Entered only in the case if GSM operator requires it.	Both

* – indicates in which working mode selected parameter is required.

2.3. GPRS activation

Connection via GPRS can be activated and login data (username and password) can be requested by SMS message which is used in several cases, i. e.:

- To activate connection using standart GPRS parameters (see Table 1),:

```
xxxx_connect:profile1
```

Here "profile1" is the code name of the used standart GPRS parameters.

- To activate connection using one-time GPRS parameters. Use one-time GPRS parameters when you want to change only one or several parameters from the standart GPRS parameters and use it only for upcoming session.

```
xxxx_connect:settings:parameters
```

Here "settings" and "parameters" are corresponding entries from Table 1. For example, sending SMS message „1111 connect:type:client" you indicate to ESIM120 to work in Client mode in the upcoming session (other parameters will be the same as standart GPRS parameters). To specify more than one parameter, you have to separate settings and parameters with ';' symbol (for example, sending SMS message „1111 connect:type:client;timeout:25" you indicate to ESIM120 to work in Client mode for 25 minutes).

Example:

```
xxxx_setgprs:apn:internet;user:web;psw:web
```

ATTENTION: the administrator can also receive login data (username and password) by making a call to the mobile phone number of the SIM card. However, this method can be activated only by performing particular configurations using ELDES software or by connecting via Internet browser.

2.4 Additional Commands via SMS Messages

Remaining Session Time Request

Send SMS message with the following text:

```
xxxx_session?
```

You will receive the reply by SMS message with the time remaining until the end of the session. The time is presented in minute-accuracy (when the last minute remaining is left, the time is presented in second-accuracy).

Stopping the On-going Session

To terminate the on-going session without waiting for it to end send SMS message with the following text:

```
xxxx_stop
```

Restoring GPRS Connection

This command is used only in the case particular GPRS connection interruptions are present (for more information refer to chapter 3). Send SMS message with the following text:

```
xxxx_gprsreset
```

3. Configuration Using Internet Browser

3.1. Login to Configuration Webpage

ESIM120 configuration webpage is accessible on the address that is formed referring to what mode is supported at that time:

- **Client mode.** Upload www.eldes.lt/login webpage to login with received username and password (use default GPRS parameters).
- **Server mode.** Upload webpage http://mobile_SIM_IP:Local_TCP_port , here mobile_SIM_IP is a static external IP address provided by GSM operator to the SIM card, Local_TCP_IP is a TCP port number used used for communication with the device (e. g.: http://195.22.1.1:5000).

Having received username and password and opening a particular webpage you can connect to the device. Please note that the device maintains GPRS connection only for a specific period. By manufacturer default settings this period is 20 minutes and when this period expires you have to activate GPRS connection anew.

When you connect to web server an initial window opens; this window contains menu items that are used for performing particular operations:

Main Menu
Basic Configuration
Data Base View
Data Base Configuration
Advanced Data Base Configuration
Log Management
Clock Settings
Scheduler Settings

Basic Configuration – this section is used for performing all the necessary configurations so that the device operates under certain conditions. For more information see chapter 3.2.

Data Base View – this section is used for reviewing all information connected with ESIM120 user database, i. e., for reviewing how many and what mobile phone numbers are entered and other statistics. For more information refer to chapter 3.3.1.

Data Base Configuration – this section is used for adding, removing or searching for a particular mobile phone number in user database. It also provides database statistics. For more information refer to chapter 3.3.2.

Advanced Data Base Configuration - this chapter is used for advanced user database management. It also provides statistics. For more information refer to chapter 3.3.3.

Log Management – this section is used for reviewing gate controller ESIM120 operation summary, i. e., this section shows when and what user used this system. For more information refer to chapter 3.4.

Clock Settings - this section is used for setting ESIM120 date and time. For more information refer to chapter 3.5.

Scheduler Settings - this section is used for managing event log. For more information refer to chapter 3.6.

NOTE: it is necessary to wait until the webpage is fully loaded in your browser. Otherwise corruption and mismatch of parameter representation is possible. If the page does not respond, please refer to chapter 4.

NOTE: after performing any configurations it is necessary to click the button **Write to Device.**

3.2. Basic Configuration

The section **Basic Configuration** can be used for performing all the necessary device configurations, i. e., for changing administrator data, their informational settings, for changing the main password or device system parameters etc. These configurations can be performed by selecting a respective menu item:

Zone Settings – Menu section where you can select settings related with device input control. For more information please refer to chapter 3.2.1.

Outputs Settings – Menu section where you can select settings related with device output control. For more information please refer to chapter 3.2.2.

User Settings – Menu section used for entering administrator data, update the main password and change particular control settings. For more information please refer to chapter 3.2.3 and 3.2.4.

SMS/Call Settings – Menu section where you can configure control and informing settings. For more information please refer to chapter 3.2.4.

GPRS Settings – This section is used for adjusting GPRS connection settings. For more information please refer to chapter 3.2.6.

3.2.1. Zones Settings

Zone Enable – Enables/disables status checking of specific inputs.

Zone1 Delay – Indicates that the system will sense the impulse, transmitted to a particular input, duration if it is longer than the preset value. The specified parameter must be in the range of 100 – 42000000, counted in milliseconds (1 second – 1000 milliseconds).

Text Z1... Z3 – Code name of a particular input. It is recommended to create the name that would most accurately describe the connected device. The name cannot be longer than 8 characters (you cannot use commas, full stops, semicolons or spaces).

3.2.2 Outputs settings

Output1... 2 Delay - Output impulse duration. The default parameter set by the manufacturer is 2 seconds.

Sh1... 8 - The number of scheduler according to which the specified output operates. For more information please refer to chapter 3.6.

3.2.3 Users Settings

In sections **User1... User5** user must enter mobile phone numbers which will be identified as administrators. It is necessary to enter only mobile phone number of the first user (User1). Mobile phone number must be in the international format (it consist of only those digits that overseas callers must type: 44[area code][local number]) without symbol '+'.

User1... User5 Output - Function allowing to assign the output (1 - relay 1, 2 - relay 2, 3 - both) controlled by the specified administrator phone number.

Password - Used for displaying the main 4-digit password used in the system. This password is requested when sending instructions to the system via SMS messages. When entering a new password you cannot use full stops, colons and space symbols.

3.2.4 SMS/Call Settings

SMS All – Function, enabling (check mark is selected) the mode when, in the case input Z1-Z3 is triggered, informational SMS messages are simultaneously sent to all the administrators on Users list. By default this function is disabled (check mark is not selected) – in this case informational SMS messages are delivered in a sequence starting with the first administrator (User1). The message is sent to the next administrator only in the case the device does not receive a confirmation about a successful SMS message delivery to the recipient.

Callback Enable – Function enabling (check mark is selected) or disabling (check mark is not selected) the short call to the user from system ESIM120 informing about successfully opened/closed relay.

Enable Control From Any Numbers – Function enabling (check mark is selected) or disabling (check mark is not selected) the mode when the system reacts to any user who is making a call regardless of whether his/her mobile phone number is stored on user database.

3.2.5 SMS Language

The system ESIM120 communicates with the user via SMS messages, which are used for sending various informational messages about system status. For the sake of comfort the user has an option to choose the language in which the SMS messages will be delivered:

• **Lithuanian** – Lithuanian language;

• **Russian** – Russian language;

• **English** – English language;

• **Eesti** – Estonian language;

3.2.6 GPRS Settings

ATTENTION: this is configuration web interface for the GPRS parameters Changes performed in this section will become effective only after the end of the current session.

Profile – Code name of the current GPRS parameters. The initial name provided by the manufacturer is profile1.

Client – Gate controller ESIM120 is accessible via Internet browser through the intermediate server.

Server – The device will operate in Server mode, i. e. it will be accessible directly via Internet browser without the use of any other additional programs. GSM operator has to provide a static external IP address to the SIM card used on the device.

Server IP – Remote server IP address or domain. It is recommended not to change default paramater.

Server TCP Port – Remote server parameter. It is recommended not to change default paramater.

Session Time – Time of one session; when this period expires the administrator has to connect anew using new login data. By factory default settings this period is 20 minutes.

ATTENTION: when the indicated session time is "0", connection session will continue until the administrator terminates it by sending a particular SMS message (please refer to chapter 2.3, "Stopping the On-going Session").

Local TCP Port – Computer TCP port number used for communication with the device. By default settings – 5000 port is activated.

TCP / UDP – Data transmission protocol. Currently only TCP protocol is activated.

DNS1 – Primary DNS server IP address.

DNS2 – Secondary DNS server IP address.

APN – GPRS diversion point provided by GSM operator of the SIM card used in the device. Entered only in the case if GSM operator requires it.

User Name – GPRS username (provided by GSM operator). Entered only in the case if GSM operator requires it.

Password – GPRS password (provided by GSM operator). Entered only in the case if GSM operator requires it.

Start GPRS User1...User5 settings group is used for selecting the administrators that will receive connection data calling on the mobile phone number of the SIM card (otherwise it is necessary to send SMS message with the connection command).

ATTENTION: when Start GPRS User1... User5 settings are activated the selected administrators will not be able to control output (relay) contacts via call. Besides, a repeated call during the session works the same way as sending SMS message for restoring GPRS connection (when the connection is interrupted).

3.3 User Database

3.3.1 Data Base View

By opening the section **Data Base View** from the initial menu you will be able to review all information of users, stored in the database, who can control gate controller ESIM120 output signals by phone call. It also provides brief database statistics. Up to 100 users per webpage are indicated. Please, refer to chapter 3.3.3 for more information.

				Scheduler									Valid Until		

Data Base View(1-100)

Max Records **500**

Free Records **497**

Idx	Name	Number	Output	Scheduler 1	2	3	4	5	6	7	8	Valid Until YYYY.MM.DD HH:MM	Ring Count	Ring Count Status
1	test001	3701111111	1	On	--	--	--	--	--	--	--	Na	20	20
2	testas2	3702222222	1	--	--	On	--	--	--	On	--	Na	Na	Na
3	test003	37055555555	1	--	On	--	On	--	--	On	--	2011.12.15 15:20	5	5

Max Records – Maximum possible number of users in the database.

Free Records – Number of free entries in the database.

Idx - Sequence number of the user stored in the user database.

Name - User name for the specified telephone number. Length - up to 15 characters.

Number - User telephone number.

Output (1 / 2 / Both) - Output number (relay 1, relay 2 or both) controlled by the specified user phone number.

Scheduler - The number of scheduler according to which the specified user phone number is able to control the assigned output (-s).

Valid Until - Specified user validation limit according to the set date and time. The user is automatically deleted from database as soon as the set date and time occurs.

Ring Count - Specified user validation limit according to the set quantity of phone calls to ESIM120. The user is automatically deleted from database as soon as the set value of phone calls is depleted. Maximum value is 4294967296.

Ring Count Status - Indicates the quantity of phone calls left for the specified user.

3.3.2 Data Base Configuration

Database Configuration settings window is used for adding, removing or searching for a particular user in the current database. Each of these operations are described below:

Data Base Configuration

Database Enable: ☑

Database Enable - function enabling (check-box is checked) or disabling (check-box is unchecked) the output control from phone numbers stored in the database.

Add Numbers: (Num1 Num2 Num3 .... up to Num9)

[Add Numbers]

Status:

To add a new user to the database, enter his/her mobile phone number in the field below. You can enter up to 9 new users at a time; these users have to be separated by a space symbol (max capacity – 500 users). If you click the button **Add Numbers** the system will record the entered mobile phone numbers in the database and the pop-up message next to **Status**: informs about a successful/unsuccessful new entry on the database.

Numbers: (Num1 Num2 Num3 .... up to Num9)

[   ]

[Delete Numbers]

Status:

To remove the data of a particular user, enter the number of this user in the field. It is necessary that the entered mobile phone number (-s) is (are) already entered to the database. You can delete up to 9 users at a time; these users mobile phone numbers have to be separated by a space symbol. Clicking the button **Delete Numbers**, the system deletes the selected mobile phone numbers from the database and the pop-up message next to **Status**: informs about a successful/unsuccessful removal.

Number: (Num1 only)

[   ]

[Check Number]

Status:

In order to check whether a particular user is entered on the database you can search for this user`s phone number.

In this case you need to enter phone number in the entry next to button **Check Number.** When clicking this button the system performs a search and the pop-up message next to Status: informs about search results. You can search for one number at a time.

Used Records:3   **Used Records** – Number of users stored in the database.

Free Records:497   **Free Records** – Number of free entries in the database.

MAX Records:500   **MAX Records** – Maximum possible number of users in the database.

3.3.3 Advanced Data Base Configuration

This menu section provides full access to user database configuration features. It allows to add, remove, search for particular users by user name or phone number, configure additional parameters – assign controllable output (-s), schduler, set time and/or date for user validation, set maximum quantity of phone calls. Each of these operations are described below.

Advanced Data Base Configuration

Max Records 500

Free Records 497

[   ] [Search]

Idx	Name	Number	Output	Scheduler								Valid Until	Ring Count	Ring Count Status
				1	2	3	4	5	6	7	8	YYYY.MM.DD HH:MM		
0	[ ]	[ ]	1 ⌄	☐	☐	☐	☐	☐	☐	☐	☐	Na	Na	Na

[Write]   [Delete]   [Clear]

Status:

To add a new user using this menu section, fill in the information and press **Write** button. Each user information column is described below.

In order to edit or search for the user stored in the database, enter user name or phone number in the entry located next to **Search** button and press the button to begin searching for user in the database. You can search for one number at a time. Once the user is found in the database, the following information can be edited:

Idx - Sequence number of the user stored in the user database.

Name - User name for the specified telephone number. Length - up to 15 characters.

Number - User telephone number.

Output (1 / 2 / Both) - Output number (relay 1, relay 2 or both) controlled by the specified user phone number.

Scheduler - The number of scheduler according to which the specified user phone number is able to control the assigned output (-s).

Valid Until - Specified user validation limit according to the set date and time. The user is automatically deleted from database as soon as the set date and time occurs.

Ring Count - Specified user validation limit according to the set quantity of phone calls to ESIM120. The user is automatically deleted from database as soon as the set value of phone calls is depleted. Maximum value is 4294967296.

Ring Count Status - Indicates the quantity of phone calls left for the specified user.

Write button – Saves the changes made to the current user / adds the new user to the database with the parameters set.

Delete button – Deletes the selected user from the database.
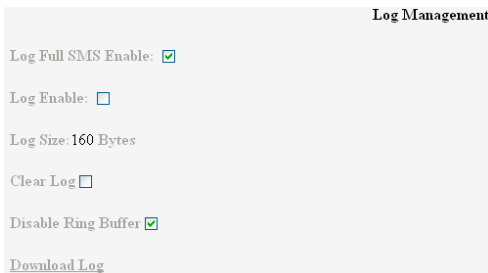
Clear button – Clears the user information in the Name, Number, Scheduler, Valid Until, Ring Count columns.

Status - Informs about search results. You can search for one user name/number at a time.

MAX Records – Maximum possible number of users in the database..

Free Records – Number of free entries in the database.

3.4 Log Management

This section is intended for gate controller ESIM120 operation summary file (log file) configuration and downloading.

The system stores a record of every operation performed, such as when and what user opened/closed the gate.

Log Full SMS Enable – By activating this feature (check-box checked) the administrator number receives SMS message about a full ESIM120 operation summary file (SMS messages will be delivered starting with administrator User1 and ending with User5, until the first successful message delivery). In this case it is necessary to empty this file. This parameter does not have any affect in **Ring buffer** mode enabled.

Log Enable - Function enabling (check-box checked) or disabling (check-box unchecked) the output control from phone numbers stored in the database.

Log Size - Indicates the amount of space the log file occupies in bytes. Maximum size of this file is ~44 KB, i. e., 1000 entries about the usage of gate controller. When this limit is reached no more records are entered in the summary therefore it is necessary to clear this file before further entries can be recorded. Besides, you can receive reminders by SMS message every time the summary file is full and there is no more space left .

To delete all data from summary file check **Clear Log** check-box and click the button **Write to Device**

Disable Ring Buffer - Function enabling (check-box unchecked) or disabling (check-box checked) the log ring buffer mode. In this mode the event log never becomes full, since the oldest event records are overwritten with the newest records. The recorded events are always sorted chronologically.

Download Log – Initiates the log file downloading process to the hard drive.

3.5 Clock Settings

Clock Settings

Controller Time is: 2011.10.21 12:20
Format: (YYYY.MM.DD HH:MM)

2011.10.21 12:20

Set Clock

Controller Time is – Indicates the current device date and time.

In order to set the new device date and time, enter the values in **YYYY.MM.DD HH:MM** format.

Set Clock button – Saves the newly set device date and time.

3.6 Scheduler Settings

Scheduler Settings

	Start Hour:	Star tMin:	End Hour:	End tMin:	Mo:	Tu:	We:	Th:	Fr:	Sa:	Su:	All:
Scheduler1:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler2:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler3:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler4:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler5:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler6:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler7:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐
Scheduler8:	0	0	0	0	☐	☐	☐	☐	☐	☐	☐	☐

Write to Device

Menu section **Scheduler Settings** is intended for configuring automatic output control and/or output control accessibility for the specified users accroding to time period and day (-s) of the week. You can set periods of time and frequency by weekdays for 8 different schedulers.

Scheduler1... 8 – Number of specified scheduler.

Start Hour / Start Min – Time settings which represent starting time for specified automatic output control and/or output (-s) control by the specified user stored in the user database.

End Hour / End Min – Time settings which represent ending time for specified automatic output control and/or output (-s) control by the specified user stored in the user database.

Mo/Tu/We/Th/Fr/Sa/Su/All – Time settings which represents in which days speciffied automatic output control and/or output (-s) control by the specified user stored in the user database will be activated. Mo – monday, Tu– tuesday, We – wednesday, Th – thursday, Fr – friday, Sa – saturday, Su – sunday, All – always.

4. Troubleshooting

The connection with the device is lost during configuration (a browser window informing about the lost connection with the server opens). Problem causes and possible solutions:

- **Interrupted GPRS connection with the device.** Click the button Refresh in the toolbar of the Internet browser. If browser window informing about the lost connection with the server opens repeatedly, send SMS message with the text xxxx gprsreset, where "xxxx" is the main 4-digit password, to the number of the SIM card used in the device. You should receive system reply by SMS message Gprsreset:OK and click the button Refresh in Internet browser.

- **Connection session time has expired.** The system sends SMS message with the text " Session:Stop " when the time dedicated for device configuration via Internet browser expires. This message will only be delivered to the administrator who activated the connection session. After this time expires it is necessary to re-connect to the device using the new connection data. To check how much time is left until the end of connection session send SMS message with the text " xxxx session? ", where "xxxx" is the main 4-digit password.

NOTE: it is necessary to wait until the webpage is fully loaded in your web browser. Otherwise corruption and mismatch of parameter representation is possible. In this case, try to re-open a webpage (click button Refresh in your web browser).