

GSM easyAID Emergency call system

INSTALLATION AND APPLICATION MANUAL

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1 Main functions of the easyAID emergency call system

Nowadays, there is a growing demand regarding the remote care of elder, sick relatives, remote control devices and systems. The needy is always vulnerable. Often, the delay of assistance can be fatal for someone who suffers in chronic and helplessness disease having a sudden deterioration. These situations can be avoided using the device proposed by our company. Mostly elder people live alone, or spend a lot of time alone while the younger relatives are working and attending school. But, everyone wants to take care of their loved relatives. The home signaling system is much more useful and safe than a mobile phone, because it is easy to use in emergency situations. The home signaling allows that the patients with disability, who take care about themselves, live with the family or alone instead of living in a community home. The signaling system assures immediate contact with the relatives, social worker, neighbor etc.

The easyAID device makes possible the conversation with the user, thus can help in discovering the point of the emergency call or perhaps the type of sick, and allows reassuring the user remotely. The device has high-sensitivity microphone (grants good sound quality remotely) and loud speaker. It can cause difficulties if the elder patient cannot reach the device right when needed. Leaving the house without protection is a disadvantage for the indoor mount devices and there is no possibility to use the device in outdoor emergencies. The RF transmitter is an accessory used for such situations, which makes possible to initiate emergency call and/or SMS message. After receiving the call, the called party can act immediately and notify the doctor or the ambulance if necessary.

The easyAID is a modern device based on IQRF technology. The IQRF technology provides good operating range and reliable, supervised bidirectional radio signal transmission between the device and the RF transmitters.

1.1 Functions and services

- Initiates emergency voice call up to 4 phone numbers
- Speed dialing of 4 phone numbers
- Status reporting (power loss, battery low/restore, etc.) in SMS up to 4 phone numbers
- Possibility for conversation through GSM call
- Plays up to 4 recordable messages at preset times as daily reminders
- 4 multifunctional pushbuttons (function keys)
- Up to 2 supervised pendant RF transmitters
- Measures the environmental temperature and reports min/max limit exceedance
- Digital display, clock

1.2 Installation- and maintenance-related warnings

- The device supports usage of two RF transmitters. The function related to the RF transmitters (remotely initiated emergency alarm, battery voltage monitoring, transmitter supervision) will work only if you assign the transmitter to the device.
- The operating range of the RF transmitter depends on the local reception conditions, therefore it is the installer's responsibility to test the proper operation on the scene, assess and inform the user with regard to the local operating range, as well as to mount the unit in the most optimal place, where it will be able to receive the RF transmitter's signals from the desired distances, taking into account that the operating range of the RF transmitter decreases when its battery weakens.
- **Attention!** The batteries of the RF transmitter have to be replaced forthwith if "**RF transmitter battery low**" event is received, as well as at least yearly, independently of the reception of this event, in order to retain the operating range of the transmitter! The range decreases if the battery weakens! It is very important to replace the batteries of the RF transmitter exclusively with new, quality lithium batteries of the same manufacturer and type! Otherwise, the batteries will not be balanced while in use, which results faster discharging, thus the batteries' life will be shorter.
- **Attention!** It is recommended to replace the device's internal backup battery yearly! The parameters of the battery are available in the technical specification section at the end of this manual.
If the battery is not used permanently, i.e. the device is powered off, the battery may go flat due to self-discharge and after a period of time it may get destroyed! To avoid this, when the device is not in use for a longer period, it is recommended to power up the device once a month and charge the battery.

1.3 Usage-related warnings

Please consider the following warnings while using the product:




- The main unit and its accessories (GSM antenna, AC adapter) are not waterproof, nor splash-proof, therefore they should not be exposed to water. These accessories are not shock-resistant and should not be exposed to high heat. The product is designed for indoor use. The RF transmitter does not have an IP certification, but it has a level of protection equal to IP51 classification specified by MSZ EN 60529:2015 standard, that is, protected against dust and vertically falling water drops. The RF transmitter is not shock-resistant, nor high heat resistant.
- Do not move the GSM antenna mounted by the installer in its optimal place and do not cover it, because this may cause weak signal which may make impossible the usage of the device.
- **Attention!** The RF transmitter is not expected to operate outside the range determined by the installer. Do not keep pushing unreasonably the RF transmitter's button, because this reduces the lifetime of its battery.
- **Attention!** The device is not portable, it operates normally from AC adapter. Do not unplug the AC adapter from the mains power, because continuous supply voltage is necessary for safe operation. The device can operate from its built-in backup battery for limited time only (0...2 hours), depending on the battery's level of charge, age, condition and extent of duty use. The specified maximum time value refers to a new, fully charged battery.
The built-in backup battery is specifically designed to provide short-term power in case of mains power failures and **does not make the device portable!**
- The easyAID is a signaling device which the manufacturer does not recommend to be used in special, high-risk life situations such as supervision of patients suffering of severe, life-threatening disease, due to the use of the GSM network, which might not be always available (e.g. in case of system maintenance). The device does not substitute the continuous personal supervision!
- Due to the hands-free operation mode, it may happen that the caller hears his own voice back through the phone during a conversation. This echo phenomenon is normal when calling through the GSM network, therefore if it occurs, it may not be the subject of a quality complaint with regard to the device.

2 User's guide

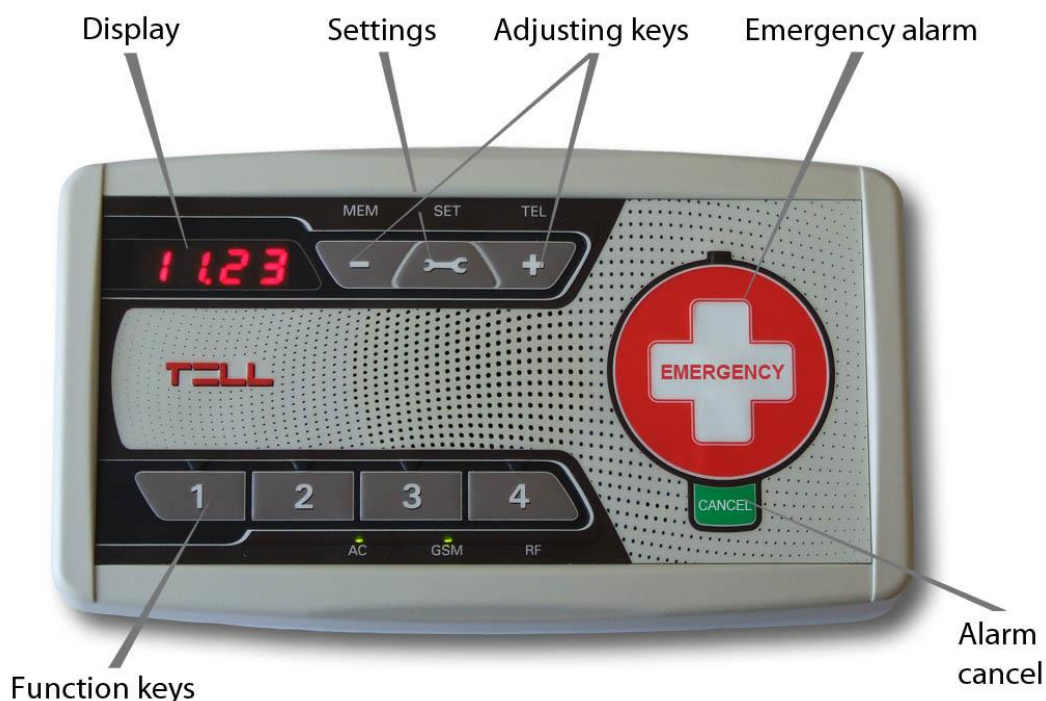
2.1 Turning the unit on and off

The emergency call device comes from the manufacturer turned off (in sleep mode) to avoid discharging of the built-in battery during transportation and storage. The module can be turned on by connecting the power adapter.

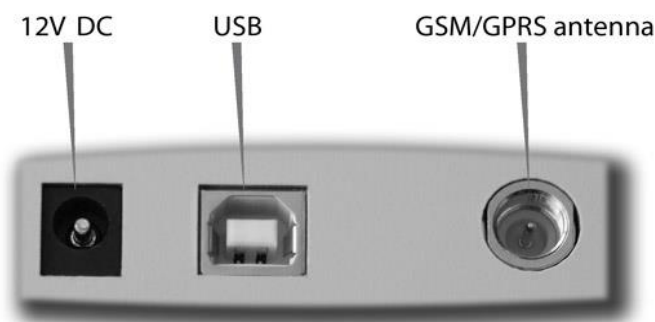
If you wish to turn off (to sleep mode) the device because of transportation or storage, follow the steps below:

- Disconnect the power adapter from the module
- If you have connected the device to USB, disconnect it
- Press the Settings  key continuously for at least 5 seconds, then "PASS" is displayed on the digital display
- Enter the user password using the 1-4 function keys (the password is: 1111)
- Keep the Cancel  key pressed and press once the Settings  key ("SLP" /sleep/ is displayed on the digital display, then the device turns off)

2.2 The easyAID unit's layout




Module's layout





Connectors


2.3 Digital display

Normally the display shows the clock.

The device can display status information by pressing the Settings  key shortly. These status information are the following:

- GSM signal: **GS 0-99** (indicates the signal strength in percentage from 1 to 99)
- SIM status: **SI 0-1** (0=no SIM inserted, 1=SIM inserted)

You can switch between the status information with the Settings  key. To return to clock display, press Cancel  key. If no key is pressed for more than 10 seconds, the display returns automatically.






When there is a power loss and the device operates from its built-in backup battery, the display is automatically turned off with 30 seconds after power loss to minimize power consumption. In this case the display can be turned on for 30 seconds by pressing Cancel  key.

2.4 Configurable options in the easyAID unit

The following options can be configured in the easyAID module:

- Clock setting
- Phone number setting
- Reminder settings













2.4.1 Setting the clock

To set the clock, keep Settings  key pressed continuously and adjust the hours and minutes value by pressing the   keys intermittently. The  key increases the hours while the  key increases the minutes. Setting the date is not possible on the unit's interface, this can only be done using the programming software.

The date setting does not affect the operation of the device, it only affects the event list records, which means if the date is not set, the date of the event records in the event list will not be actual.

Attention! The device does not control daylight saving, therefore the clock has to be adjusted in this period.

2.4.2 Setting the phone numbers














- 1) Press the Settings  key continuously for at least 5 seconds, then **"PASS"** is displayed on the digital display
 - 2) Enter the user password using the 1-4 function keys (the password is: 1111)
 - 3) Press the Settings  key intermittently in the settings mode, until the "TEL" LED becomes lit green
 - 4) The LED found above the function key (1-4) is lit if there is already a phone number stored in the given memory section
 - 5) Keep pressed for 3 seconds the function key (1-4) to which memory section you wish to add (or modify) a phone number, then "-" is displayed on the digital display if this section is empty, or the phone number stored here previously. The LED above the given (1-4) key flashes green to indicate to which section the setting is in progress, while the "TEL" LED is lit red
 - 6) Enter the phone number digit by digit using the   keys. You can shift to the next digit by pressing the Settings  key
 - 7) After entering the phone number, keep the Settings  key pressed continuously for 3 seconds to save
 - 8) To add new phone number, return to step 5
 - 9) When finished, press Cancel  key to exit the programming mode. The "TEL" LED is lit green continuously to indicate that there are phone numbers set.
- **Erasing phone numbers:**
 - 1) Press the Settings  key continuously for at least 5 seconds, then **"PASS"** is displayed on the digital display
 - 2) Enter the user password using the 1-4 function keys (the password is: 1111)
 - 3) Press the Settings  key intermittently in the settings mode, until the "TEL" LED becomes lit green
 - 4) The LED found above the function key (1-4) is lit if there is already a phone number stored in the given memory section
 - 5) Keep pressed for at least 5 seconds the function key (1-4) from which memory section you wish to erase a phone number. The LED found above the given key turns off and the display indicates "- - - -"
(To view the whole phone number, you can scroll the digits of the selected phone number using the   keys)
 - 6) To erase further phone numbers, return to the previous step
 - 7) When finished, press Cancel  key to exit the programming mode. If you have not erased all the phone numbers, the "TEL" LED remains lit green continuously to indicate that there are phone numbers set.

2.4.3 Setting the reminders

Four voice messages can be recorded, each 10 seconds long, which are played at the given times of day. The reminders can be configured to be played within the 0-24 interval, with daily repetition.

- **Recording a reminder**

Steps of reminder recording:

- 1) Press the Settings  key continuously for at least 5 seconds, then “**PASS**” is displayed on the digital display
- 2) Enter the user password using the 1-4 function keys (the password is: 1111)
- 3) The “MEM” LED becomes lit
- 4) The reminders can be stored by assigning them to the 1-4 function keys. The LED found above each function key is lit if there is already a reminder assigned to the given key
- 5) Keep pressed for 3 seconds the function key (1-4) you wish to assign the reminder to. The LED above the given (1-4) key flashes green to indicate to which section the setting is in progress, while the “MEM” LED is lit red
- 6) Say the message after the beep, as close as possible to the front of the device. After the next beep the module replays the recorded message automatically
- 7) Keep the Settings  key pressed for 3 seconds. The time of reminder playing can be adjusted using the +/-   keys, digit by digit. Switching to the next digit can be done using the Settings key , e.g.: to set the time to 12:30, do the following:
0._._._ → 1x  = 1._._._ →  → 2x  = 12._._ →  → 3x  = 12.3._ →  = 12.30
- 8) By pressing the Settings key  again, the modifications are saved and saving is confirmed by a voice message
- 9) If you wish to set further reminders, repeat the above process from step 5
- 10) When finished, press Cancel  key to exit the programming mode. The „MEM” LED remains lit continuously to indicate that there are reminders set.



If you wish to modify only the time of a reminder, then after step 3 press the 1-4 function key to which the reminder to be modified is assigned. After this the device plays the given reminder, then continue the setting from step 7. The LED above the given (1-4) key flashes green to indicate to which section the setting is in progress.

- **Playing a reminder**


The recorded reminders can be replayed by pressing shortly the corresponding 1-4 function keys, provided that there has been assigned a reminder to the given key previously.

- **Erasing a reminder**


Steps of reminder erasing:

- 1) Press the Settings  key continuously for at least 5 seconds, then “**PASS**” is displayed on the digital display
- 2) Enter the user password using the 1-4 function keys (the password is: 1111)
- 3) The “MEM” LED becomes lit
- 4) The LED found above each 1-4 function key is lit if there is already a reminder assigned to the given key
- 5) Keep pressed for at least 5 seconds the function key (1-4) assigned to the reminder to be erased. The LED found above the key turns off and “- - - -” is displayed on the digital display
- 6) If you wish to erase further reminders, repeat the previous step (5)
- 7) When finished, press Cancel  key to exit the programming mode
- 8) If you have not deleted all the reminders, the "MEM" LED remains lit green

- **Confirming a reminder**


The user can confirm the reminder by pressing the Cancel  key while the reminder is being played. If no confirmation is done, the message will be repeated in the configured intervals (5 to 30 seconds). If the reminder is still not confirmed after being repeated according to the configured number of repetition (1 to 10), the module generates “*Reminder unacknowledged*” event which initiates SMS sending or call according to the settings. The delay between reminder repetitions and the number of repetitions can be configured using the programming software.

2.4.4 Starting an emergency call

Emergency calls can be initiated by pressing the Emergency  key or by pressing the button on the RF transmitter. In case of initiating an emergency alarm using the RF transmitter, the transmitter’s LED indicator starts flashing with red light, thereby indicating that signal transmission is in progress. The transmitter’s LED indicator turns green for 1-2 seconds if the signal transmission towards the device was successful, i.e. the device confirmed the reception. In case that the transmitter’s LED indicator keeps flashing with red light, it means that for some reason the signal does not reach the device, or the device’s confirmation does not reach the RF transmitter (i.e. the RF transmitter is outside the operating range). At a single press of the RF transmitter’s button the RF transmitter tries to send the signal towards the device once per second, altogether 100 times, i.e. through 100 seconds. The operating range of the RF transmitter depends on the local reception conditions, therefore it is the installer’s responsibility to test the proper operation on the scene, assess and inform the user with regard to the local operating range, as well as to mount the unit in the most optimal place, where it will be able to receive the RF transmitter’s signals from the desired distances, taking into account that the operating range of the RF transmitter decreases when its battery weakens.

The battery of the RF transmitter needs to be replaced forthwith if “**RF transmitter battery low**” event is received, as well as at least yearly, independently of the reception of this event, in order to retain the operating range of the transmitter! The user can initiate emergency alarms by 5 seconds using the RF transmitter, while from the easyAID unit this can be done at anytime.

Attention! If the configured calls are not started even within a few minutes after sending an emergency alarm, it might happen that the calls failed to start due to a connection (e.g. network outage due to maintenance) or other error! In this case please resend the emergency alarm and/or try to ask for help in other way as well, e.g. by phone.

To cancel or revoke an emergency call press the Cancel  key while the countdown is shown on the digital display. After an emergency alarm is initiated, the device waits 5 seconds before initiating the call and sending SMS message, which time is available to cancel an alarm initiated by mistake.

When an emergency call is initiated, the device calls the 1-4 phone numbers in order, and then sends the configured SMS messages. If any of the called numbers/party received and confirmed the call, then the device does not initiate further calls to the next phone numbers and does not send any SMS messages about this event.

ATTENTION! Disable voicemail service on the phone numbers to be dialed by the device because in case that the given phone number is not available, this causes significant delay to the calls and SMS messages to be initiated to the next phone numbers! The outgoing calls which are received by voicemail are considered successful by the device!


- **Confirming an emergency call**

The called party can confirm the emergency call by pressing * key on the phone. If the called party receives the call and presses * key on the phone, the device will not initiate further calls to the next phone numbers, considers the emergency call process finished, therefore will not send any configured SMS messages about this event.

2.4.5 Confirming a visit


The social worker can confirm the visit by entering a 4 digit individual password (nurse code) consisting of digits 1,2,3 and 4, which has to be previously configured with the programming software. If the password has been entered correctly, the module generates “*Nurse confirmation*” event and initiates the calls and/or SMS sending configured for this event.

Entering the confirmation password:

- 1) Keep the Cancel  key pressed for at least 5 seconds
- 2) On digital display „- - - -” is displayed
- 3) Enter your 4 digit nurse code using the 1-4 function keys
- 4) If the password has been entered correctly „ok” is displayed
- 5) In case of wrong password „Err” is displayed

2.4.6 Speed dialing



Speed dialing of the 1-4 phone numbers can be initiated by pressing the appropriate 1-4 key for at least 3 seconds. Key 1 stands for the first phone number, key 2 for the second, key 3 for the third and key 4 for the fourth phone number.

The call is initiated automatically in hands-free mode. The call in progress can be ended by pressing Cancel  key. If the called number is not available, is busy, or there is no phone number stored in the given memory section, the device indicates this by playing “*Unsuccessful call*” voice message.

2.4.7 Assigning the RF transmitter

The device supports usage of two RF transmitters. The function related to the RF transmitters (remotely initiated emergency alarm, battery voltage monitoring, transmitter supervision) will work only if you assign the transmitter to the device.



Steps of assigning a transmitter:

- 1) Press the Settings  key continuously for at least 5 seconds, then “**PASS**” is displayed on the digital display
- 2) Enter the user password using the 1-4 function keys (the password is: 1111). The digital display shows “**ok**”, then “- - -”.
- 3) Keep the Cancel  key pressed and press once function key 1 or 2, according to the number of the memory slot you wish to assign the given RF transmitter to. The digital display will show the number of the selected memory slot (“**1**” or “**2**”).
- 4) Press the button of the RF transmitter you wish to assign. If assigning was successful, “**ok**” will be displayed on the digital display next to the number of the selected memory slot, then a signal tone will be emitted and the module will exit the programming mode automatically. To assign a new RF transmitter, repeat the above steps and choose this time the memory slot which is not in use yet.

2.4.8 Erasing the RF transmitters


This operation erases all the assigned RF transmitters.

Steps of erasing the RF transmitters:

- 1) Press the Settings  key continuously for at least 5 seconds, then “**PASS**” is displayed on the digital display
- 2) Enter the user password using the 1-4 function keys (the password is: 1111). The digital display shows “**ok**”, then “- - -”.
- 3) Keep the Cancel  key pressed and press once function key 3. “**Er**” will be displayed on the digital display, then a signal tone will be emitted and the module will exit the programming mode automatically.

2.4.9 Voice call settings

Incoming calls are accepted only from the maximum 4 phone numbers configured for receiving of calls and SMS messages from the device. Calls received by the device from other, unknown phone numbers are rejected automatically.

The device answers the incoming calls automatically in hands-free mode after the configured number of rings. A call can be ended by pressing the Cancel  key, or by the caller. Calls in progress are also ended automatically if an emergency call is initiated.

When an incoming call is ended by either of the parties or the line goes dead, the module plays the “*Call ended*” voice message.

Due to the hands-free operation mode, it may happen that the caller hears his own voice back through the phone during a conversation. This echo phenomenon is normal when calling through the GSM network, therefore if it occurs, it may not be the subject of a quality complaint with regard to the device.

2.4.10 SMS forwarding

The SMS messages received on the SIM card installed in the device are forwarded automatically to the phone number configured in the voice call settings section in the field marked with number “1”. (This is used for e.g. forwarding the card balance information messages received from the GSM service provider in case of using a Pre-Pay type SIM card). If no phone number is entered in the field marked with number “1”, the device will delete all incoming SMS messages and will not forward them.

2.4.11 SMS restriction

The device has built-in SMS restriction function, which allows sending of maximum 50 event SMS messages and forwarding of maximum 10 incoming messages per 12 hours. After reaching the SMS sending limits, SMS sending will be blocked for 12 hours counted from the event of reaching the given limit. In case of reaching the event SMS sending limit, the device will block sending of event SMS messages, and if reaching the SMS forward limit, it will delete all incoming messages without forwarding, in order to avoid message congestion. When the 12-hour SMS restriction period expires, the device enables again event SMS sending, respectively SMS forwarding.

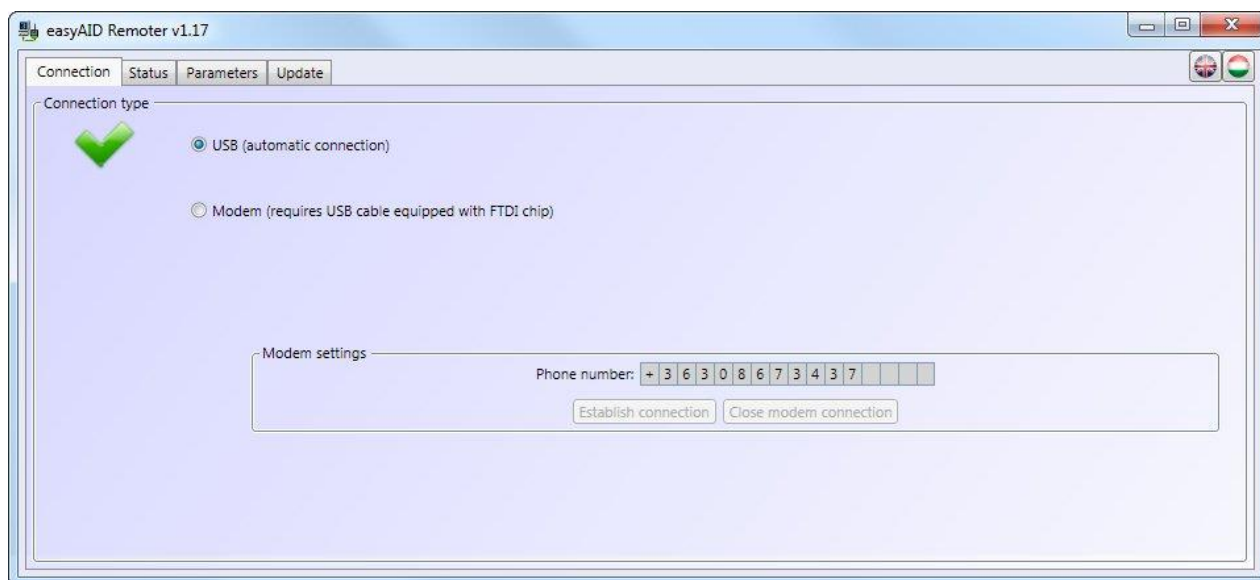
3 Configuring the easyAID unit using the programming software

The **easyAID** module's parameters can be configured on PC through USB connection or through GSM modem connection, using the programming software found on the CD supplied with the product.

Supported operating systems: Windows 7 (32/64bit), Windows 10 (32/64bit).
The software requires *Microsoft .NET Framework 3.5* to be installed.

For modem connection a GSM modem is needed which can be purchased separately (TELL GM900 is recommended). If using a different GSM modem, a USB / RS232 adapter cable equipped with FTDI chip is also needed.

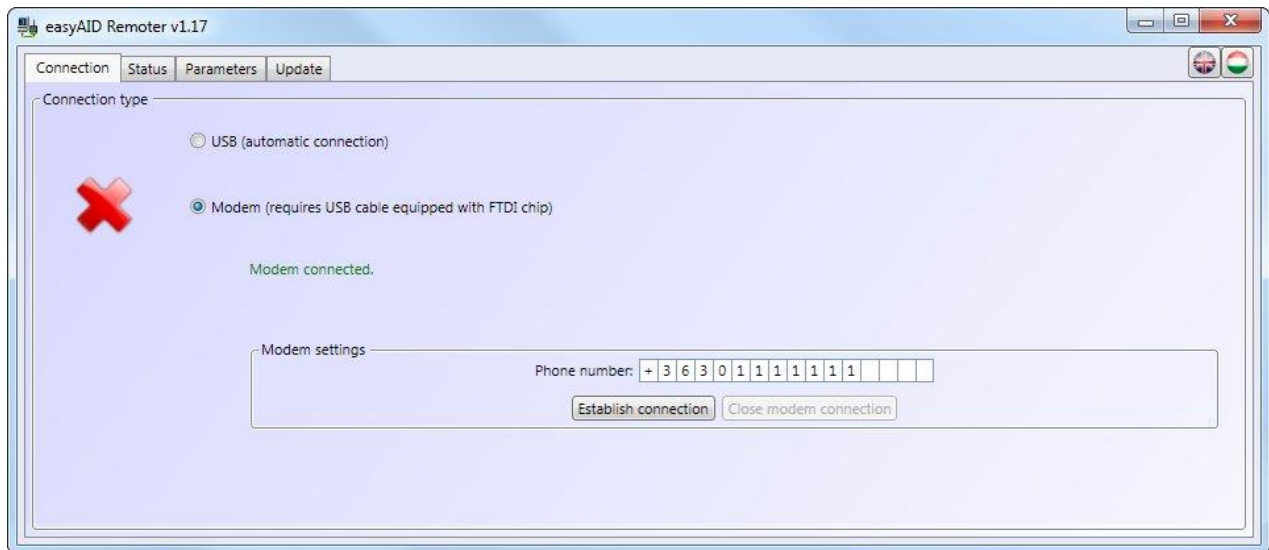
3.1 Configuring through USB connection



- Start the “**easyAID_GSM_Remoter**” program
- Choose the USB option in the “**Connection**” menu
- Power up the easyAID module
- Connect the module to the PC using USB cable
- The programming software detects the connected device automatically
- The software asks for the module's password, if this is other than the default (1111)
- If the connection is successful, a green tick is displayed
- Perform the desired settings (help is available in the following chapters)
- When programming is finished, disconnect the device from USB

3.2 Configuring through modem connection

For this type of connection a GSM modem is needed which can be purchased separately (TELL GM900 is recommended). If using a different GSM modem, a USB / RS232 adapter cable equipped with FTDI chip is also needed. Remote programming works over GSM data call (CSD service), therefore this service is needed on both the SIM card inserted in the modem and the one used in the easyAID device.

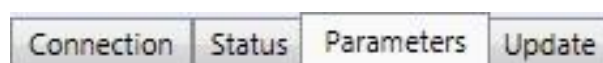


Establishing the modem connection:

- Start the “**easyAID_GSM_Remoter**” program
- Choose the Modem option in the “**Connection**” menu
- Power up the GSM modem, then connect it to the PC using the USB/RS232 adapter cable equipped with FTDI chip
- The programming software detects the connected device automatically
- Enter the phone number of the easyAID module to be connected in the “**Phone number**” field using international format
- Start dialing by pressing “**Establish connection**” button
- The software asks for the module’s password, if this is other than the default (1111)
- If the connection is successful, a green tick is displayed
- Perform the desired settings (help is available in the following chapters)
- When programming is finished, close the connection by pressing “**Close modem connection**” button

3.3 Configuring the parameters

To configure parameters choose the “**Parameters**” menu where you can edit the settings in the submenus.



3.3.1 Settings

The “**Settings**” menu can be used to configure the GSM call parameters, status reporting and daily reminders.

The screenshot shows a web-based settings interface with four main sections:

- State reports:** Temperature min/max values (0-50 °C): 12 - 40 °C; Test report frequency (1 - 24): 24 hour(s); Test report time: 09 : 00 hours : minutes.
- Voice call settings:** Phone numbers for incoming/outgoing calls (4 rows of input fields); Miscellaneous options (checkbox for Low battery warning, sliders for Number of rings and Ring volume); Nurse code (input field with 2 2 3 4).
- Reminder settings:** Number of reminder repetitions (1-10): 2; Delay between repetitions (5-30 sec): 5; Four time slots (1-4) with checkboxes and time pickers (08:00, 10:30, 14:30, 17:00).

- **State reports:**

- **Temperature min/max values:** a minimum and a maximum temperature limit can be configured between 0 and 50°C. If the module’s environmental temperature drops below the minimum value or increases above the maximum value, the module generates the corresponding event and initiates call and/or sends SMS according to the settings.

Attention! The device measures the temperature with approximate accuracy, the measured value may differ with +/-5°C from the real temperature.

- **Test report frequency:** it can be configured in hours between 1 and 24, how often the module should send a periodic test report message, expediently by SMS. This report serves for checking if the device operates.
- **Test report time:** the module sends the first periodic test report at the time of day set here, thereafter with the configured frequency

- **Voice call settings:**

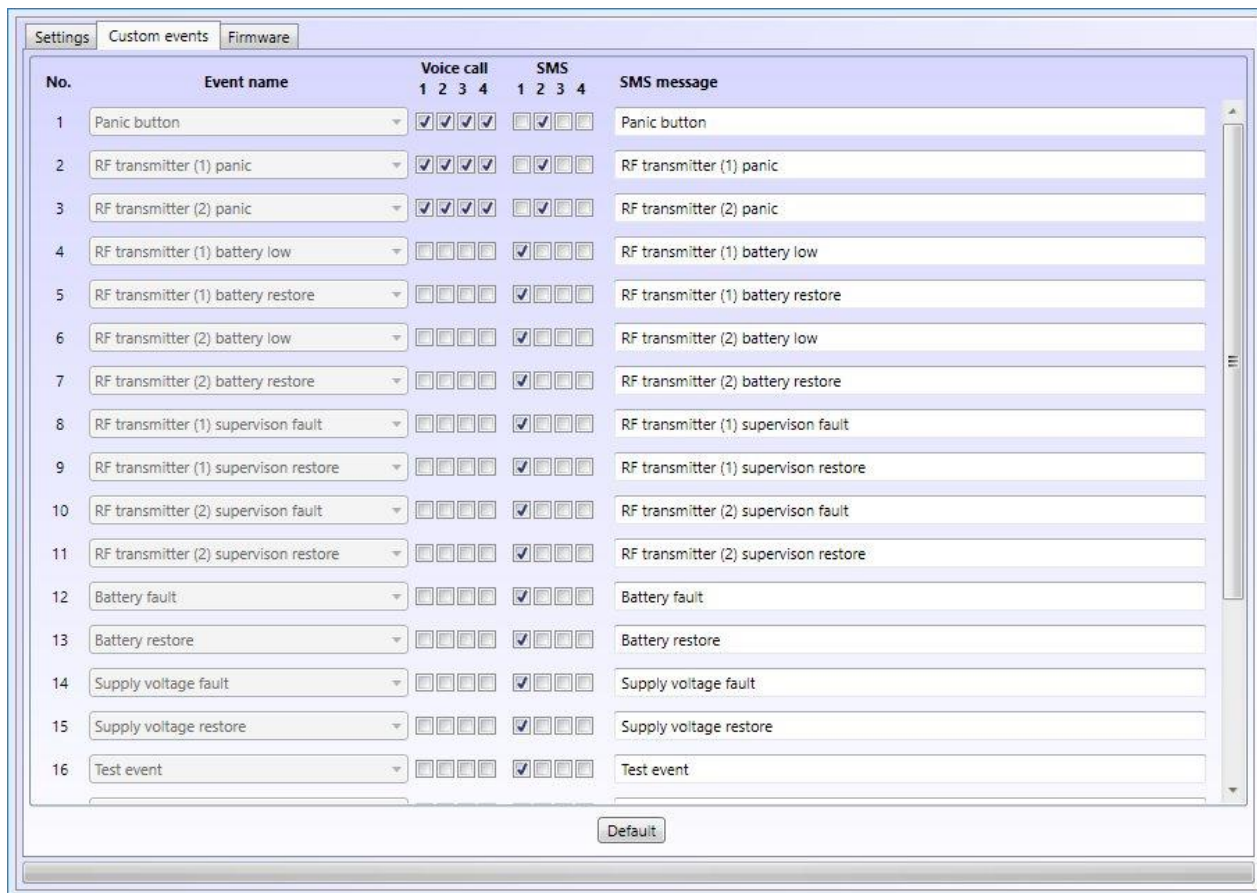
- **Phone numbers for incoming/outgoing calls:** four phone numbers can be configured from which the module accepts incoming calls and to which calls can be initiated. When receiving a call, the module answers automatically in hands-free mode after the configured number of rings, this way makes possible the conversation with the person staying near the device. Outgoing call occurs when an emergency alarm is initiated, and speed dialing of phone numbers 1-4 is also possible.

- **Miscellaneous options:**

- **Low battery warning:** if enabled, the device plays a warning voice message by 15 minutes when the built-in backup battery voltage drops below 7.4V on power loss, until the battery voltage drops to 6.4V and the device turns off, or the mains power restores.
 - **Number of rings:** it is possible to specify, after how many rings (1 to 5) the module should answer a call automatically.
 - **Ring volume for incoming calls:** you can adjust the ringer volume for incoming calls between 50% and 100%.
- **Nurse code:** a code consisting of digits 1,2,3 and 4 can be specified which can be used by the social workers/nurses to confirm a visit. The preset code can be entered on device using the 1-4 function keys. After the social worker/nurse enters the code, the module generates “*Nurse confirmation*” event and initiates call and/or sends SMS as configured.
 - **Reminder settings:** four daily reminders can be configured for diverse tasks, as specified in the “*User’s guide*” chapter.
 - **Number of reminder repetitions:** it can be configured between 1 and 10 how many times the module should repeat the given reminder voice message.
 - **Delay between repetitions:** it can be configured between 5 and 30 seconds, how long the module should wait before repeating the given reminder voice message.
 - **1-4:** the checkboxes can be used to enable the 1-4 reminders, and in the time fields the time of day can be set when the module should play the given reminder voice message.

This function can also be used e.g. to control the patient (max. 4 times a day): if the patient does not confirm the reminders (in this case control messages), so the device sends the „*Reminder unacknowledged*” message, this may mean that the patient does not feel well and for some reason could not press the emergency call button.

3.3.2 Custom events



The “**Custom events**” menu provides possibility to customize the module’s events. It can be specified which event should initiate calls and/or SMS messages to which of the 4 phone numbers.

The alarming period (event lifetime) is 15 minutes for each event. The alarming period is applied specifically for each custom event, which means the module tries to report each event for 15 minutes using the configured reporting channels. **Attention!** As the module is unable to report an event within its alarming period, the reporting process of that event will be terminated when the 15 minutes period expires, and that specific event will not be reported anymore.

Specification of the columns of the “**Custom events**” menu:

- **No.:** the event’s ordinal number in the list
- **Event name:** the name of the event
- **Voice call 1...4:** clicking in the checkboxes you can enable the given event to initiate voice call to the configured (1-4) phone numbers
- **SMS 1...4:** clicking in the checkboxes you can enable the given event to send SMS message to the configured (1-4) phone numbers
- **SMS message:** you can enter the text of the SMS message to be sent to the enabled (1-4) phone numbers when the given event is generated. The maximum length of the message should not exceed 80 characters, but any character can be used.

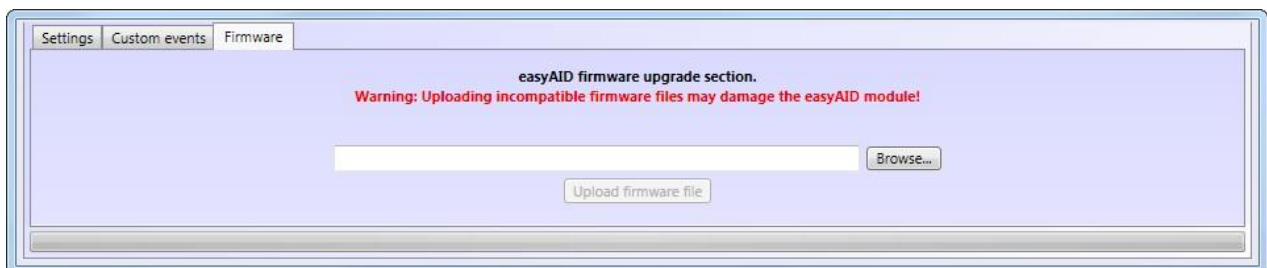
Events:

- **Panic button:** this event occurs when the emergency key found on the module is pressed
- **RF transmitter (1) panic:** this event occurs when the emergency button of the RF transmitter No. 1 is pressed.
- **RF transmitter (2) panic:** this event occurs when the emergency button of the RF transmitter No. 2 is pressed.
- **RF transmitter (1) battery low:** this event indicates that the battery voltage of the RF transmitter No. 1 is low. It occurs when the battery voltage of the RF transmitter No. 1 drops below 4.2V. If receiving this event, replace forthwith the battery of the RF transmitter No. 1.
- **RF transmitter (1) battery restore:** this event indicates the battery voltage restoration of the RF transmitter No. 1. It occurs when the battery voltage of the RF transmitter No. 1 restores above 4.3V.
- **RF transmitter (2) battery low:** this event indicates that the battery voltage of the RF transmitter No. 2 is low. It occurs when the battery voltage of the RF transmitter No. 2 drops below 4.2V. If receiving this event, replace forthwith the battery of the RF transmitter No. 2.
- **RF transmitter (2) battery restore:** this event indicates the battery voltage restoration of the RF transmitter No. 2. It occurs when the battery voltage of the RF transmitter No. 2 restores above 4.3V.
- **RF transmitter (1) supervision fault:** this event occurs when the RF supervision message sent by 45 minutes is not received by the easyAID module from the RF transmitter No. 1 (the transmitter was moved too far from the module or became unusable due to flat battery or other reason). The device waits up to 2 hours and 20 mins for the supervision message before it generates this event.
- **RF transmitter (1) supervision restore:** this event indicates the supervision message restoration of the RF transmitter No. 1. It is generated when any event is received from the RF transmitter No. 1 after a supervision fault
- **RF transmitter (2) supervision fault:** this event occurs when the RF supervision message sent by 45 minutes is not received by the easyAID module from the RF transmitter No. 2 (the transmitter was moved too far from the module or became unusable due to flat battery or other reason). The device waits up to 2 hours and 20 mins for the supervision message before it generates this event.
- **RF transmitter (2) supervision restore:** this event indicates the supervision message restoration of the RF transmitter No. 2. It is generated when any event is received from the RF transmitter No. 2 after a supervision fault
- **Battery fault:** this event indicates that the module's built-in backup battery voltage is low. It occurs when the battery voltage drops below the 7V level.
- **Battery restore:** this event is generated when the built-in backup battery voltage reaches the normal 7.8V level after a battery fault
- **Supply voltage fault:** this event occurs when the module's supply voltage drops below the 9V level for at least 3 minutes
- **Supply voltage restore:** this event occurs when the supply voltage rises above 10V for at least 10 seconds after a supply voltage fault
- **Test event:** the periodic test report which is generated as configured in the "Settings" menu / "State reports" section / "*Test report frequency*" and "*Test report time*" options

- **Low temperature:** this event occurs when the environmental temperature of the module drops below the configured minimum temperature value. If the condition persists, event sending is repeated by 100 minutes.
- **Low temperature restore:** this event occurs when the environmental temperature of the module restores above the configured minimum temperature value after a low temperature event.
- **High temperature:** this event occurs when the environmental temperature of the module rises above the configured maximum temperature value. If the condition persists, event sending is repeated by 100 minutes.
- **High temperature restore:** this event occurs when the environmental temperature of the module restores below the configured maximum temperature value after a high temperature event.
- **Reminder unacknowledged:** this event occurs if the user does not confirm a reminder
- **Nurse confirmation:** this event occurs when the social worker/nurse enters the nurse code on the module when visiting the patient
- **Default:** pressing this button, the whole event template can be restored to factory default.

3.3.3 Firmware

The “**Firmware**” menu provides possibility to upgrade the module’s firmware if necessary and justified. The firmware (the module’s software) defines the operation and functions of the device. Uploading incompatible or faulty firmware may cause damage to the easyAID module!



Firmware update process:

- Power up the easyAID module
- Establish the connection between the programming software and the easyAID module
- Select the corresponding firmware file after pressing “**Browse**” button
- To start the upgrade press “**Upload firmware file**” button
- The progress bar found at the bottom of the program window indicates the uploading status
- When uploading is completed, the module restarts automatically. After this load your settings to the module, then check the operation.

3.4 Management of the settings


You can easily manage and archive your settings with the seven buttons found on the upper section of the „Parameters” menu.



The functions of the seven buttons, from left to right: **Read parameters from file**, **Save parameters to file**, **Save parameters to file in printable format**, **Read parameters from module**, **Upload parameters to module**, **Compare parameters with the module** and **Change module password**.

After you have finished configuring the parameters, upload the settings to the module by pressing the upload button. The upload/download progress is indicated on the progress bar found at the bottom of the software window. The new settings are activated only after the upload is successfully completed.

3.5 Changing the module’s password

To change the module’s password, click on the “lock”  button, then fill out the text fields and click on **OK** button.

Attention! The module’s password is different from the password used to enter the user settings. The module’s password protects the software settings against unauthorized access. The user password does not change by changing the module’s password, it always remains the default 1111, and it serves only for preventing the user from entering the settings menu accidentally.





In case you forgot the module’s password, you cannot change it, therefore you have to reset the module to its default state, which operation will also reset the password to the default 1111.

Warning! In case you reset the module, all previously configured parameters will be reset to default values, which means all the settings and recorded reminders will be erased.

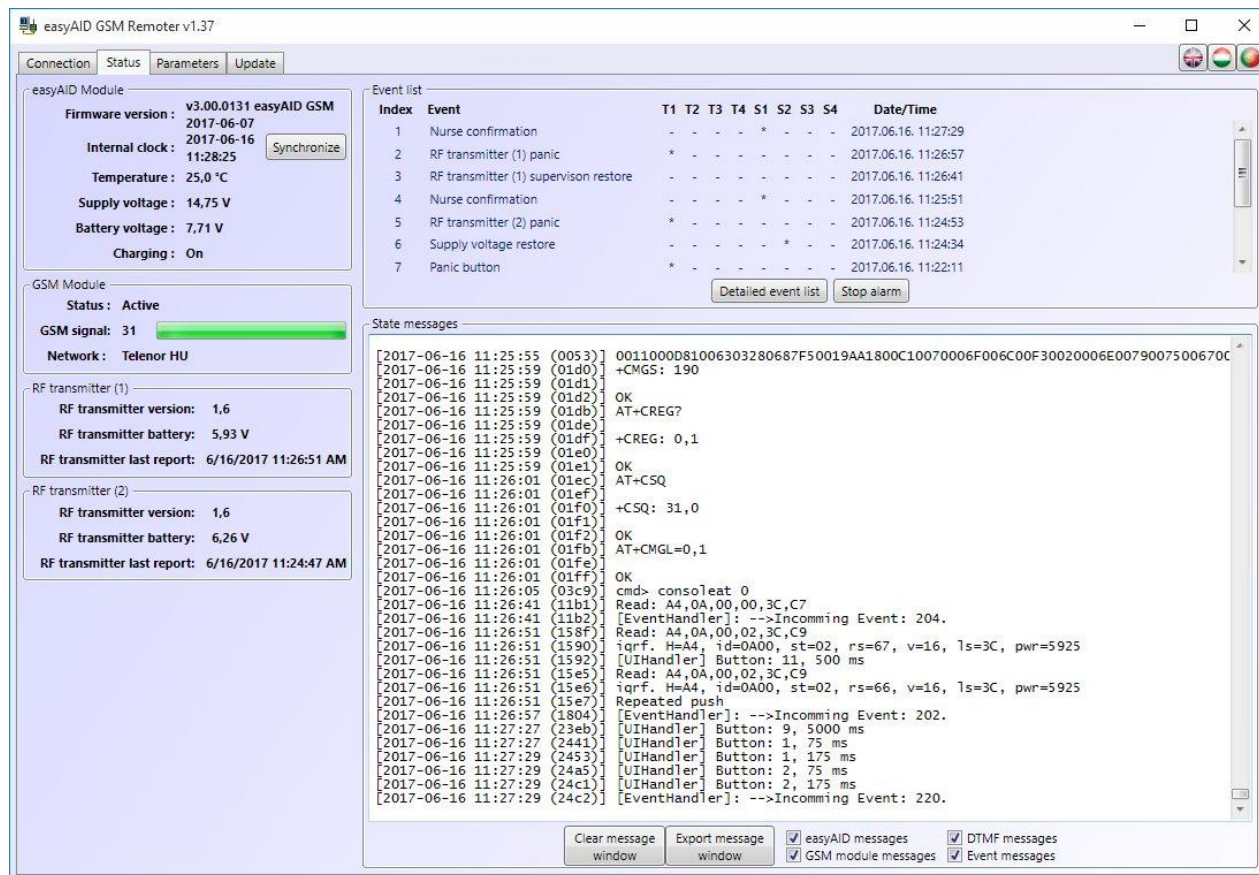
3.6 Resetting the module

To restore factory default settings, do the following:

- Switch the module to SLEEP mode according to the instructions found in chapter 2.1
- Keep pressed the Settings  and Cancel  keys at the same time
- Power up the module (connect the power adapter)
- Release the keys kept pressed
- “rES.” Is displayed for 2 seconds on the digital display, then the settings are erased.

3.7 Module status monitoring

The easyAID module's actual status details (firmware version, date/time settings, temperature, supply voltage, backup battery voltage, charging status, GSM module status, GSM signal strength, SIM card registration status and RF transmitters' status information) are available in the **"Status"** menu, and the actual list of events and module's messages are also displayed here.



Elements and available functions of the **"Status"** menu:

- **easyAID Module** section:

- **Firmware version:** version of the module's firmware and its issue date
- **Internal clock:** the time setting of the connected module
- **Temperature:** the measured actual environmental temperature
- **Supply voltage:** the value of module's input voltage
- **Battery voltage:** the terminal voltage of the built-in backup battery (8.2V when fully charged)
- **Charging:** **On:** battery charging in progress
Off: battery charging is off

- **GSM Module** section:

- **Status:**
 - **Inactive:** system startup in progress or the network is unavailable
 - **Registration in progress:** searching GSM operator
 - **Active:** connected to the GSM network
- **GSM signal:** the actual GSM signal level (0 to 31)
- **Network:** the name of the GSM operator in use

- **RF transmitter (1, 2)** sections:

- **RF transmitter version:** the version number of the RF transmitter's firmware
- **RF transmitter battery:** the RF transmitter's battery voltage level
- **RF transmitter last report:** the date and time of the last report (supervision message or event) received from the RF transmitter

- **Event list section:**

The event list contains the module’s events in the order of their occurrence. The list is refreshed automatically by 1 second.

- **Index:** the event’s ordinal number
- **Event:** the event’s name
- **T1 ... T4:** the event’s 16 character Contact-ID code
- **S1 ... S4:** reporting to monitoring station phone numbers 1 and 2
- **Date/Time:** date and time of event generation

- **Signs displayed in columns T1-T4 and S1-S4:**

- **?** - event processing/reporting in progress
- ***** - reporting completed successfully
- **!** - reporting failed
- **S** - the event and further reporting has been stopped
- **T** - reporting timeout, reporting was unsuccessful within the alarming period

- **“Stop alarm” button:** all events/reports in progress can be stopped by pressing this button when connected to the module

- **State messages section:**

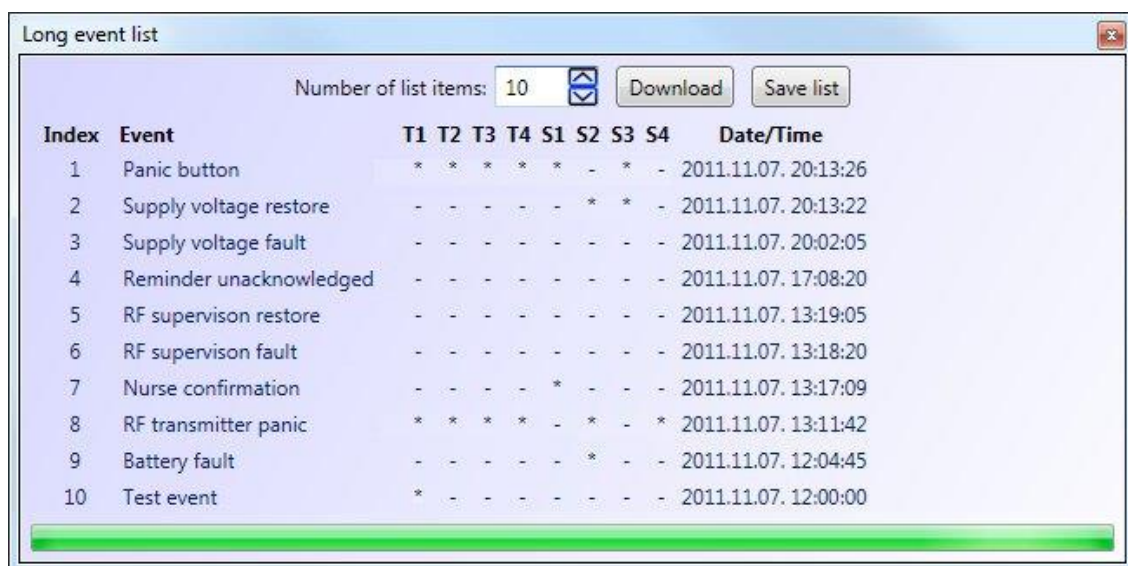
This section shows the module’s recent messages with date and time of generation.

It is possible to select which messages to be displayed by enabling/disabling the “**easyAID messages**”, “**GSM module messages**”, “**DTMF messages**” and “**Event messages**” options.

The content of the message window can be saved to text file by pressing “**Export message window**” button, or can be deleted using “**Clear message window**” button.

3.7.1 Downloading the event list

A longer event list can be downloaded after pressing “**Detailed event list**” button in the “**Status**” menu. The module is capable to store the latest 1000 events.



- **Number of list items:** this number of events will be displayed among the latest ones
- **Download:** press to start downloading the events from the module
- **Save list:** the content of the downloaded list can be saved to Excel file by pressing this button

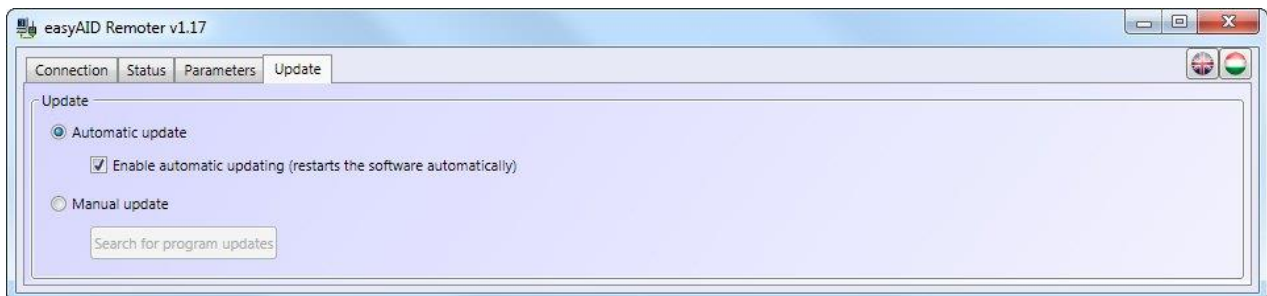
- **Columns of the event list:**

- **Index:** the event's ordinal number
- **Event:** the event's name
- **T1 ... T4:** the event's 16 character Contact-ID code
- **S1 ... S4:** reporting to monitoring station phone numbers 1 and 2
- **Date/Time:** date and time of event generation

- **Signs displayed in columns T1-T4 and S1-S4:**

- **?** - event processing/reporting in progress
- ***** - reporting completed successfully
- **!** - reporting failed
- **S** - the event and further reporting has been stopped
- **T** - reporting timeout, reporting was unsuccessful within the alarming period

3.8 Software update



The “**Update**” menu makes possible to select the programming software’s update mode.

Update: if “**Automatic update**” option is selected, the program searches for new version on the internet by 20 minutes. If “**Manual update**” is selected, searching for updates can be initiated by pressing “**Search for program updates**” button. To update the program, internet connection is necessary.

Enable automatic updating: if this option is enabled, the program performs the update without asking for the user’s confirmation, then closes and restarts automatically with the new version. If disabled, the program asks for the user’s confirmation.

Search for program updates: by pressing the button, searching for updates is started.

3.9 Voice messages, warnings

Some of the events are also indicated by voice messages as follows:

- *"Emergency call in progress"* – when the module's emergency key or the RF transmitter's emergency button is pressed
- *"Emergency call cancelled"* – when an emergency call is cancelled by pressing the Cancel key
- *"Calling"* – when speed dialing is initiated using the 1-4 keys
- *"Unsuccessful call"* – if the number called with speed dialing is busy, unavailable, or there is no phone number stored in the given memory section
- *"Settings saved"* – after modifying settings on the module's user interface
- *"Say the reminder message after the beep"* – when recording a reminder
- *"First reminder"* – when pressing function key 1, if the first reminder's time is set, but no message is recorded
- *"Second reminder"* – when pressing function key 2, if the second reminder's time is set, but no message is recorded
- *"Third reminder"* – when pressing function key 3, if the third reminder's time is set, but no message is recorded
- *"Fourth reminder"* – when pressing function key 4, if the fourth reminder's time is set, but no message is recorded
- *"The battery is low. Please connect the device to the charger"* – if the supply voltage is lost (e.g. on mains power failure) and the unit's backup battery has discharged below 7.4V. This warning voice message is repeated by 15 minutes until the battery voltage drops to 6.4V and the device turns off, or the supply voltage restores.
- *"Call ended"* – when an incoming call is ended by either of the parties or the line goes dead for any reason.

4 Peripherals of the easyAID unit

4.1 Device LED signals

AC LED	<p>Continuous green: supply voltage is OK and the battery is charged.</p> <p>Pulsing green: supply voltage is OK, the backup battery is charging.</p> <p>Pulsing red: there is no supply voltage, the module operates from its battery.</p>
GSM LED	<p>Continuous red: the GSM module cannot be initialized. This may happen if the SIM card is not detected or if other hardware failure occurs.</p> <p>Slowly pulsing red: the GSM module is being initialized.</p> <p>Fast pulsing red: the GSM module is initialized, registering to GSM network is in progress.</p> <p>Continuous green: the GSM module has registered to GSM network and is ready for operation.</p> <p>Pulsing green: an outgoing call is in progress on the GSM module.</p>
RF LED	<p>Pulsing green: the RF transmitter has been activated (RF panic in progress).</p>
SET LED	Not in use.
MEM LED	<p>When in programming mode, is lit green if the reminder settings are selected. Still in programming is lit red if the reminder functions are being programmed.</p> <p>In normal operation mode is lit green if there are reminders set.</p>
TEL LED	<p>When in programming mode, is lit green if the phone number settings are selected. Still in programming is lit red if the phone numbers are being programmed.</p> <p>In normal operation mode is lit green if there are phone numbers stored.</p>
EMERGENCY LED	<p>Fast pulsing red: 5 seconds delay in progress after pressing the emergency key.</p> <p>Continuous red: reporting an emergency alarm is in progress and waiting for callback.</p> <p>Slowly pulsing red: waiting for nurse confirmation after an emergency alarm.</p>

4.2 RF transmitter LED signals

LED indicator	<p>Pulsing red: signal transmission in progress.</p> <p>Green: successful transmission, the device confirmed the reception.</p>
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4.3 SIM card socket

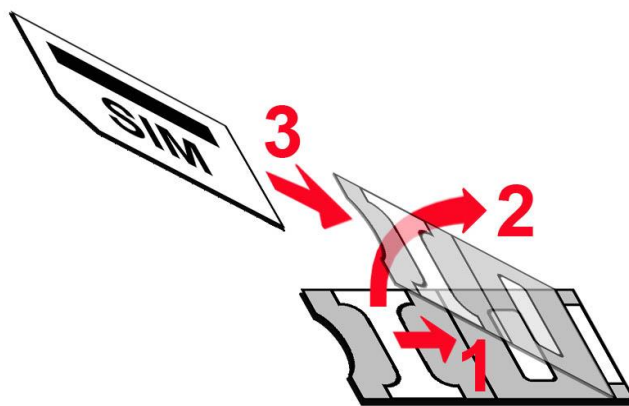
The SIM card socket is placed on the back part of the product's electronic panel. Insert the SIM card here. To access the panel, the module's plastic casing has to be disassembled by removing the four screws found on the backside of the device. The SIM card necessary for the module's operation can be procured from any GSM service provider. Necessary services: GSM voice communication and SMS sending.

The easyAID module is unlocked, it can be used with SIM cards from any GSM service provider.

5 Installation guide

5.1 Mounting and putting into operation

- **Disable PIN code request, voicemail and “notification on missed calls” services on the SIM card placed into the module.**
- **Enable caller identification and caller ID sending services on the SIM card at the GSM service provider** (a few types of SIM cards do not have these services enabled by default).
- Inserting the SIM card:
 - Unscrew the four screws on the back of the module using an appropriate screwdriver. When unscrewing, hold the front cover and back cover together so as not to fall apart, as this may damage the connecting cables.
 - Take apart carefully the front cover from the back cover. Take care not to strain the connecting cables. The circuit board is fixed to the back cover.
 - The SIM card should be inserted in the SIM slot found on the middle of the circuit board, near the display unit:



- 1. pull back (away from the display unit) the metal security lock of the SIM slot until it clicks
 - 2. reach under the metal security lock with your fingernail and open the slot
 - 3. slide the SIM card into the opened part with the contacts facing down, as shown in the figure above
 - Close back the opened part together with the SIM card
 - Press down carefully and pull forward (towards the display unit) the metal security lock, until it clicks
 - Assemble the front and back cover so that the connecting cables (except the flexible flat cable) should not lay under the speaker's magnet
 - Hold the front and back cover together and screw back the four screws, but do not overtighten them.
- Test the GSM signal strength with your mobile phone. It may happen that the signal strength is not sufficient in the desired mounting place. In this case the planned installation place can be changed before mounting the device.
 - Do not mount the unit in places where it can be affected by strong electromagnetic disturbances (e.g. in the vicinity of electric motors, etc.).
 - Do not mount the unit in wet places or places with high degree of humidity.
 - Do not mount the unit close to radiators, heating appliances, air conditioners or where the environmental temperature may exceed 30°C or drop below +10°C.
 - **For appropriate RF range, the device should be mounted horizontally in upright position, on the wall or other suitable surface, at least at 1 meter from the ground level.**
 - **Avoid mounting the device in the close proximity of metal surfaces, because these greatly reduce the RF transmitter's operating range!**



- Connecting the GSM antenna: the antenna can be connected to the FME connector. The antenna supplied with the module provides good transmission under normal reception circumstances. In case of occasionally occurring signal strength problems or/and wave interference (fading), use another type of antenna with higher gain or find a more suitable place for the module. Place the GSM antenna as far as possible from the device, as high as possible, in vertical position.
- Power up the AC adaptor, then connect it to the module.
- After putting into operation, check the GSM signal strength using the programming software. In case of low signal, achieve better signal by relocating the GSM antenna.

6 Technical information

6.1 Technical specification

Supply voltage:	9-30VDC
Nominal current consumption:	180mA /12VDC
Maximal current consumption:	500mA /12VDC
Operating time from battery:	≈0...2 hours*
Operating temperature:	+10°C...+30°C (product designed for indoor use)
Transmission frequency:	GSM 900/1800 MHz, 850/1900 MHz
GSM phone type:	Simcom SIM900
RF transmitter battery type:	2pcs CR2016 Li-Mn 3V
Internal backup battery:	7,4V LiPo 2S 450...600 mAh, the battery's maximum dimensions: 57x31x12 mm
Dimensions:	176 x 100 x 30 mm
Nett weight:	300g
Gross weight (packed):	950g

*The operating time depends on the built-in backup battery's level of charge, age, condition and extent of duty use! The specified maximum value refers to a new, fully charged battery.

6.2 Contents of the package

- easyAID device
- GSM antenna
- AC adapter
- 1pcs RF transmitter with lanyard
- Fixing board, Velcro, 2 wall plugs, 2 screws
- User's manual, warranty card

6.3 The manufacturer's contact

T.E.L.L. Software Hungária Kft
 4034 Debrecen, Vágóhíd u. 2.
 Hungary
 Web: www.tell.hu