SIEMENS

User Manual for AyAlarm

V2.1

AyTerminal

© Siemens AG Österreich 2007

Issued by
Siemens AG Österreich (Siemens Austria)
Program and System Engineering
PSE CSS MPS
Gudrunstraße 11
A-1100 Vienna

The reproduction, transmission, translation or exploitation of this document or its content is not permitted without express written authority. Offenders will be liable for damages. All rights reserved, including rights created by patent grant or registration of a utility model or design.

Right of technical modification reserved.

Contents

1 Introduction 4
1.1 Purpose of the document 4
1.2 Validity of the document 4
1.3 Definitions of terms and abbreviations 4
2 Quick instruction / reference 5
2.1 Device description 5
2.2 Getting started 5
2.3 Configuring the AyAlarm modes 5
2.4 Activating a mode 6
2.5 Deactivating a mode or a triggered alarm 6
2.6 Turning off the AyTerminal 6
3 AyTerminal device 7
3.1 Device description 7
3.1.1 Hold-switch 8
3.1.2 Status LED 8
3.1.3 Lumberg Connector 9
3.1.4 AySnapOn Connector 9
3.1.5 Navigation buttons 9
3.1.6 Speaker 10
3.1.7 Microphone 11
3.1.8 3D-Ego-motion sensor 11
3.1.9 Temperature sensor 11
3.1.10 OLED display 11
3.1.11 Battery charging 11
4 Installation and startup 12
4.1 Installation 12
4.2 Startup 13
4.2.1 Loading screen 13
4.2.2 Emergency call mode 13
4.2.3 PIN/PUK input 13
4.2.4 Boot screen 14
5 AyAlarm application 16
5.1 AyAlarm menu structure 17

5.2 Modes description 18
5.2.1 Alarm clock 18
5.2.2 Baggage Secure 18
5.2.3 Room Monitor 18
5.2.4 Car Alarm 18
5.2.5 Temperature Watchdog 18
5.2.6 Voice Call 18
5.2.7 AyAlarm mode specific settings 19
5.2.8 AyAlarm alarms and notifiers 26
5.3 Selecting a mode 26
5.4 Configuring a mode 28
5.4.1 Activation Time 28
5.4.2 Auto start 31
5.4.3 Notifiers 31
5.4.4 Triggers 34
5.4.5 Duration 39
5.4.6 Overview 39
5.5 Activating/Starting a mode 41
5.6 Deactivating a mode or a triggered alarm 43
5.7 Emergency Call 43
5.8 Settings 44
5.8.1 AyServer Sync 44
5.8.2 AySnapOn 45
5.8.3 AyTerminal 45
5.8.4 Audio 48
5.8.5 Clock 49
5.8.6 Display 49
5.8.7 Security 50
5.9 Turning off the AyTerminal 51
5.10 Involved sensors in AyAlarm modes 52
5.11 Symbols on AyTerminal 52
52

1Introduction

1.1Purpose of the document

The purpose of this document is to describe and specify in detail the GUI for the product AyAlarm, an AyTerminal application.
It is based on the version 1.0 of the AyAlarm application.

1.2Validity of the document

This document is valid for the AyTerminal project, a subproject of AySystem.
The document describes how to use the AyAlarm application.

1.3Definitions of terms and abbreviations

Abbreviation	Description
APN	Access Point Name
AySnapOn	additional device to extend the functionality of the AyTerminal device
DNS	Domain Name Server
EW	East-West
GPRS	General Packet Radio Service
GPS	Global Positioning System
GSM	Global System for Mobile Communications
GUI	Graphical User Interface
IMEI	International Mobile Equipment Identity
LED	Light Emitted Diode
MSISDN	Mobile Subscriber ISDN number
NET	Network
NS	North-South
OLED	Organic Light Emitting Diode
PIN	Personal Identification Number
PUK	Personal Unblocking Key
SIM	Subscriber Identity Module
SMS	Short Message Service
URL	Universal Resource Locator

Table 1-1 Abbreviations

2Quick instruction / reference

2.1Device description

The detailed device description you find in chapter 3.1.
The major parts are:

- Display (OLED display):
  Used for information screens and for input screens.
  There are 2 display modes: standard mode and jumbo mode (big-sized characters)
  See chapter 3.1.9.
- Navigation buttons:
  4 touch sensor buttons around the display:
  - arrow up: up button
  - arrow down: down button
  - right button: Enter button
  - left button: Cancel button

  The display also represents a button (center button)
  See chapter 3.1.5.
- Status LED:
  provides feedback about the current AyTerminal status
  See chapter 3.1.2.

2.2Getting started

- Insert SIM card and battery
  See chapter 4.
- Turn on the device: press the central button for 2 seconds.
  The loading screen will be displayed.
  See chapter 4.2.1.
- Enter the PIN of the SIM card.
  Select the OK option and press the Enter button (right button).
  See chapter 4.2.3.
- Select the AyAlarm application and press the Enter button.
- Optional:
  Define the deactivation code (sequence of 4 buttons, default: up button, right button, down button, left button)
  Definition via Settings > AyTerminal > AyApplication > Deactivation code
  See chapter .
- Select the AyAlarm mode you want to start and press the Enter button.
  If a mode is set to auto start, this mode will be started automatically.
  See chapters 5.2 and 5.3.

2.3Configuring the AyAlarm modes

The detailed device description you find in chapter 5.4.

- Alarm clock:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Alarm time
  Duration (see chapter 5.4.5)

- Baggage Secure:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Triggers (see chapter 5.4.4)
  Duration (see chapter 5.4.5)
- Room Monitor:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Triggers (see chapter 5.4.4)
  Duration (see chapter 5.4.5)
- Car Alarm:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Triggers (see chapter 5.4.4)
  Duration (see chapter 5.4.5)
- Temperature Watchdog:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Triggers (see chapter 5.4.4)
  Duration (see chapter 5.4.5)
- Voice Call:
  Activation Time (see chapter 5.4.1)
  Autostart (see chapter 5.4.2)
  Notifiers (see chapter 5.4.3)
  Phone number (see 5.4.3.3)
- Emergency Call (see chapter 4.2.2)
  If this mode is activated, pressing the Enter button initiates an emergency call to the 112 emergency number.
  This mode is also available, if no SIM card is inserted.
- Settings (see chapter 5.8)

For all the modes also an overview of the current settings is available (see chapter 5.4.6).

2.4Activating a mode

- To start the configured mode, select the Start option in the mode menu.
  See chapter 5.5.

2.5Deactivating a mode or a triggered alarm

- Press the buttons that form the deactivation code.
  See chapter 5.6.

2.6Turning off the AyTerminal

- If a mode is activated, deactivate this mode (enter the deactivation code).
- In the AyAlarm menu, select the Turn off option and press the Enter button. See chapter 5.9.

3 AyTerminal device

3.1Device description

AyTerminal is a device that enables phone calls, temperature, noise and acceleration measuring, sounding alarms or notifying user via web pages, voice call and/or SMS. All this numbered features are AyApplication specific.

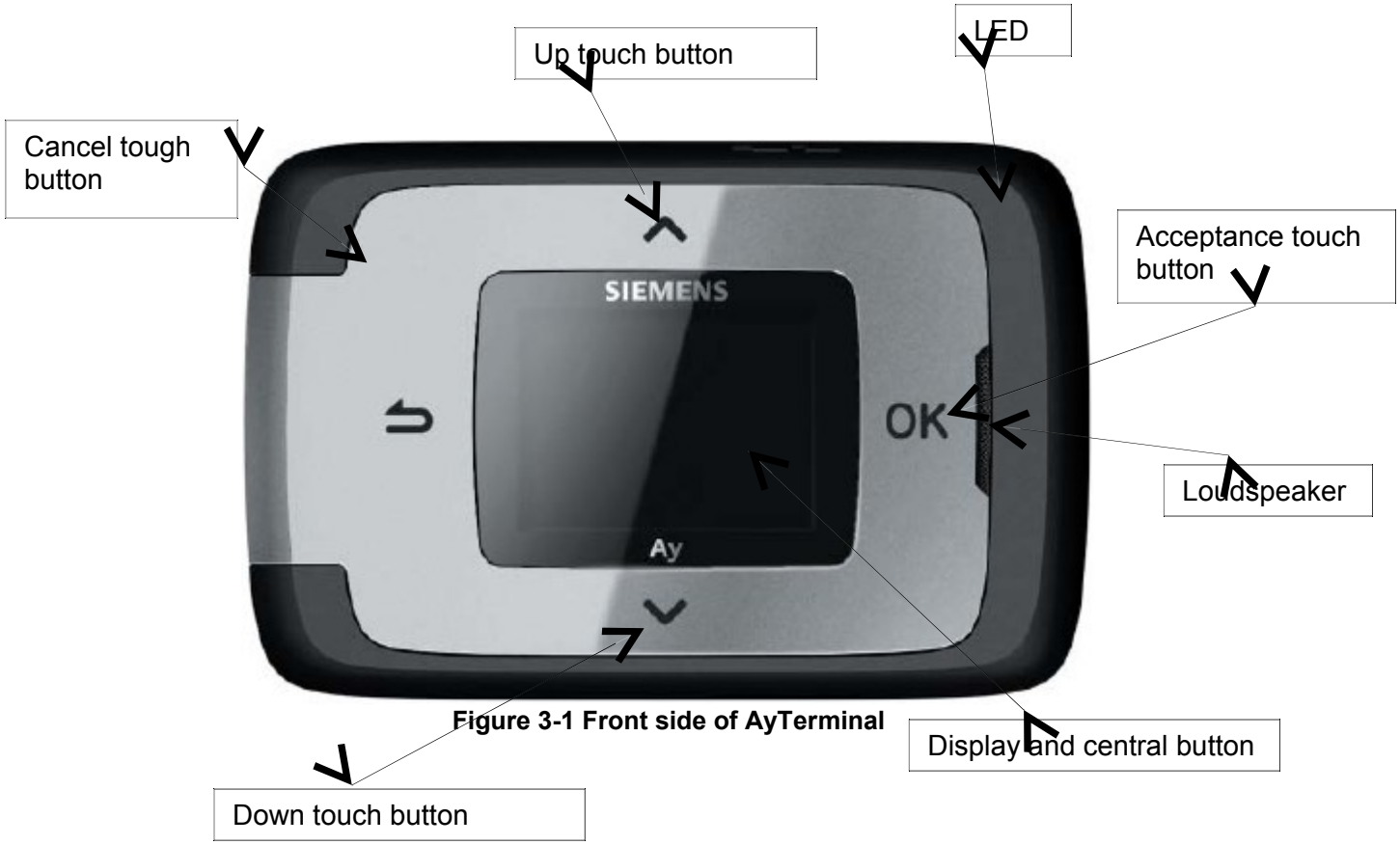


Figure 3-1 Front side of AyTerminal

Figure 3-2 Lumberg connector

Figure 3-3 Release button

Figure 3-4 Hold-switch

3.1.1 Hold-switch

This switch prevents unintended button presses, see Figure 3-4. A button press is accepted only in case the switch is in position “unlock”. If the hold-switch is in position “lock“ the only accepted action is the long-press onto the central button, if this is enabled by AyApplication e.g. to enable emergency calls.
If the AyTerminal is off, the hold-switch on “lock” and long press is performed the AyTerminal will NOT turn on.

3.1.2 Status LED

This status LED is used to provide feedback to the end-user about the current AyTerminal status.
The dual-color LED is able to show the following colors:

- black (off),
- green,
- red,
- orange (mixture between red and green).

The LED is able to blink within the range from once per 25 seconds (0,04Hz) to 10 times per second (10Hz).
Following table shows the status of the Status LED depending on the AyTerminal status.

Status LED		AyTerminal status
color	type	
green	permanent	AyTerminal OFF, charger connected, battery charging mode
red	permanent	AyTerminal OFF, charger connected, battery charging error
orange	permanent	AyTerminal OFF, charger connected, battery charging finished
green	permanent	AyTerminal ON, startup phase
orange/green	blinking (500msec ORANGE, 500msec GREEN)	AyTerminal ON, startup phase, firmware update
green/black	blinking (100msec ON, 2000msec OFF)	AyTerminal ON, mode active or idle
orange/black	blinking (100msec ON, 2000msec OFF)	AyTerminal ON, shutdown phase (selection of Turn OFF item)
green/black	blinking (100msec ON, 200msec OFF)	AyTerminal ON, GPRS/SMS/GSM transmission •
red/black	blinking (300msec ON, 300msec OFF)	AyTerminal ON, error indication like: • low battery, • to many AySnapOn´s connected, no SIM inserted
orange/black	blinking (300msec ON, 300msec OFF)	AyTerminal ON, AyApplication alarm is triggered
red	permanent	AyTerminal ON, critical error, device

	deactivation after 15min

Table 3-2 Status LED colors depending on AyTerminal status

In case of two or more simultaneous events that can trigger the change of Status LED color there have been established priority rules.
These rules are:

1. If the Status LED color is blinking ORANGE or RED then the Status LED color can not be changed to GREEN (permanent/ blinking slow/ blinking fast). In this case the status LED ORANGE/ RED must be first stopped and after that the status can be changed to GREEN (permanent/ blinking slow/ blinking fast) or the change request for GREEN can be performed but the status will be changed only when ORANGE/ RED will be turned off.
2. Permanent/ Fast/ Slow RED LED status can be set no matter the current LED status
3. If the status LED color is blinking RED then the Status LED color can not be changed to ORANGE (permanent/ slow/ fast). In this case the status LED RED must be first stopped and after that the status can be changed to ORANGE (permanent/ blinking slow/ blinking fast) or the change request for ORANGE can be performed but the status will be changed only when RED will be turned off.
4. In case of turning off one status LED the previous status LED is set back (e.g. Previous status is slow GREEN and current status permanent RED. When the status RED is removed then the slow GREEN is again established as status of the LED)

Example of applying the rules:

In case of triggering an alarm it is defined that the status LED becomes fast blinking ORANGE. In case of SMS it is defined that the status LED is blinking GREEN. If SMS is sent meanwhile the alarm is triggered then the change request for status LED GREEN is stored but the status is changed only when ORANGE is turned off (rule number 1).

3.1.3 Lumberg Connector

Using this 12 pin slim Lumberg connector is possible to:

- Connect a Siemens standard headset and to use it for GSM voice calls.
- Connect the AyTerminal charger for charging the AyTerminal battery.

This slim Lumberg connector used for the developer AyTerminal version makes possible the upload and debug of the developed AyApplications via data cable (see Figure 3-2).

3.1.4 AySnapOn Connector

This connector is used to connect up to four AySnapOns.

3.1.5 Navigation buttons

The navigation buttons provide the input possibility for the AyTerminal user.
There are four touch sensor buttons around the display for the following navigation purposes:

- Arrow up – up button
- Arrow down – down button
- Back – left button, Cancel button
- OK (right or accept button)

Additionally, the display itself is a mechanical button (confirm/enter/application specific purpose). For the central button the AyTerminal can distinguish between single click, double click, and long button press.

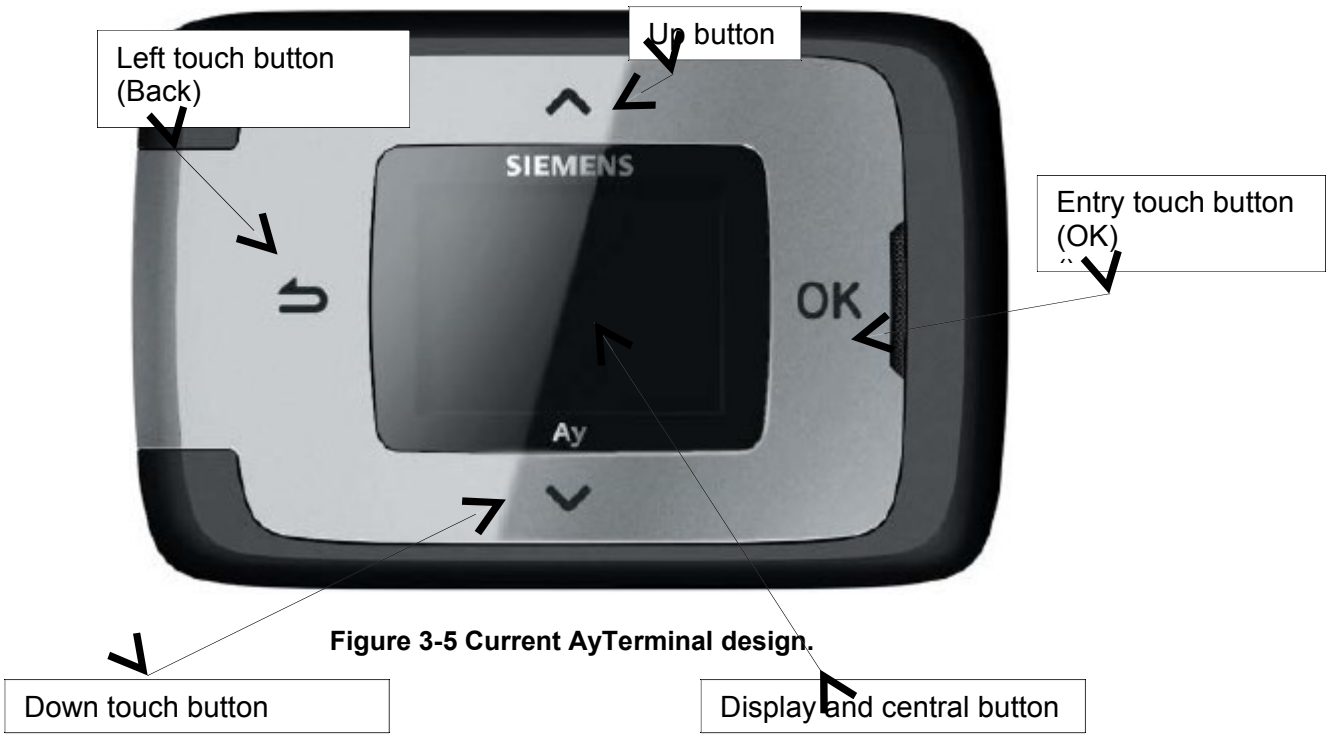


Figure 3-5 Current AyTerminal design.

3.1.5.1Navigation through the menu structure

In a menu layout the first menu item is selected by default. Another item can be selected by pressing up/ down button.
Depending on the selected menu item pressing the right button will:

- Accept the selection
- Select/ Unselect/ Check/ Uncheck the item (if a radio button or a check box is displayed in front of the item)

To go back to the previous menu level the left button has to be pressed.

3.1.6Speaker

The speaker of the AyTerminal is used for GSM voice calls and for providing an acoustic feedback. For the following use cases an acoustic feedback is provided:

- On navigation button click
- On AyApplication specific triggering of a predefined alarm tone
- On AyApplication specific triggering of predefined acknowledgment tones
- On incoming voice calls with predefined ring tones

3.1.6.1Acknowledgement tones

There are positive and negative acknowledgment tones: one beep indicates a positive acknowledgment, two beeps a negative acknowledgment. The table below lists the acknowledgment use cases:

Event	Positive (one beep)	Negative (two beeps)
FW download	Yes, download accepted	No, download rejected
To many AySnapOns	No	Yes
Entering PIN	Yes, successfully	No, incorrect PIN
Entering PUK	Yes, successfully	No, incorrect PUK
New AySnapOn connected, Search item selected	Yes, found	No, not found

Table 3-3 Positive and negative acknowledgment for some events

3.1.6.2Ring tones

There are 7 available ring tones which can be used in AyApplications. With AyCare application these ring tones can just be played from Settings/ Audio/ Ring tones.

3.1.6.3Alarm tone

Alarm tone is an internal alarm which is used in AyCare for playing siren in case of alarm (if the mode is defined so).

3.1.7Microphone

The microphone is used for the GSM voice call and/or as noise sensor.

3.1.83D-Ego-motion sensor

The ego-motion sensor is used to detect the AyTerminal movement.

3.1.9Temperature sensor

The temperature sensor provides the information about the AyTerminal environment temperature. The temperature range is defined by the operating range of AyTerminal with a temperature-accuracy of +/-1,5°C @ 30°C without charger connected and OLED display off. In case of a connected charger (OLED display always on), the internal temperature of the AyTerminal will rise due to the charging process. The AyTerminal will counterbalance this internal heating but the temperature sensor will have lower environment temperature accuracy due to the battery charging.

3.1.10OLED display

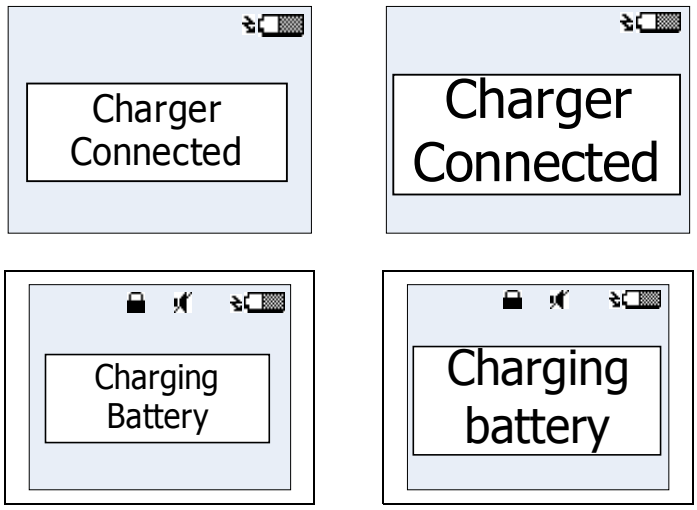
The AyTerminal has a *white* OLED display with 128x96 pixel resolution which is also the active display area used for the screen layouts. In standard mode the used font is Tahoma 15x16 proportional and in jumbo mode the font Tahoma 23x24, each font consisting of maximum 128 characters. These fonts allow English and German user interfaces. All characters that are not supported by the character set of the used font will be shown as '?'.

3.1.11Battery charging

The AyTerminal can be connected to a charger when the device is switched on or off. It takes 3 hours to charge the battery full.

3.1.11.1Connecting a charger & AyTerminal switched off

If the device is switched off and a charger is connected then the charging battery symbol will be shown on the display. The AyTerminal can be turned on by pressing long the central button.



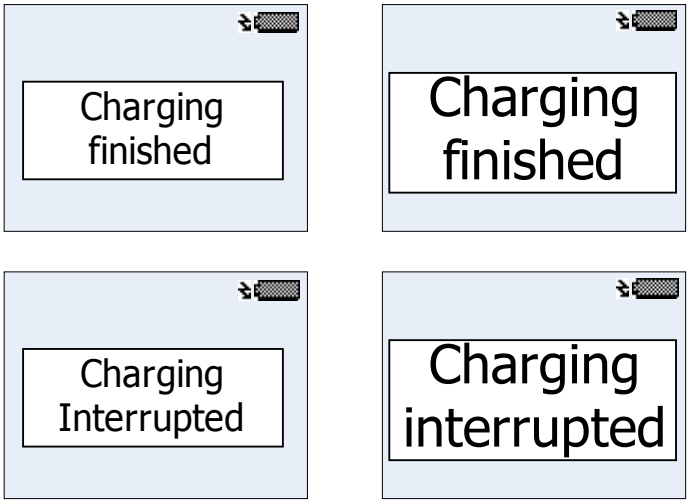


Figure 3-6 Charging possible states of AyTerminal

3.1.11.2Connecting a charger & AyTerminal switched on

If the device is switched on and a charger is connected, the charging battery symbol will be shown while the status bar is shown. The AyTerminal will work normally like it does without charger connected.

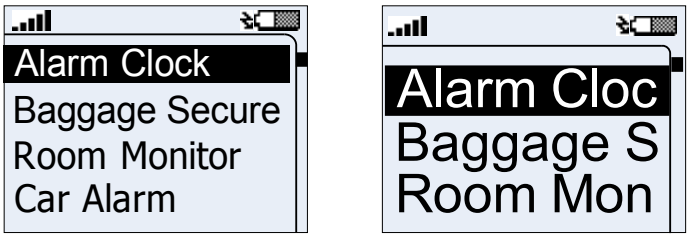


Figure 3-7 AyTerminal ON in charging mode

3.1.11.3Charger connected, AyTerminal running, shutting down

If the changer is connected while AyTerminal is switched on and user selects Turn Off in main menu, shutting down procedure is started – see the chapter 5.9, and the AyTerminal pass in charging state. A screen like in Figure 3-6 is shown. If after this screen is shown the charger is removed then AyTerminal is turned off. The AyTerminal can be turned on again by pressing long the central button.

3.1.11.4Connecting charger before shutting down AyTerminal

If after connecting the charger Turn Off item is selected in main menu the AyTerminal is executing a turning off procedure (see the chapter 5.9). While AyTerminal is turning off and the charger is connected then AyTerminal will enter in charging state and a screen like in Figure 3-6 is shown.

NOTE: Do NOT connect charger while TURNING OFF the AyTerminal because the data that is being saved might be corrupted!

4Installation and startup

4.1Installation

Remove the battery cover by pressing the Release button (see Figure 3-3). Slide the SIM card into its holder. Make sure that the gold contacts of the SIM are facing down and the cut off corner is correctly aligned. Insert the battery side way into the AyTerminal and then press it downwards until it clicks into position. Place the battery cover back.

4.2Startup

Press the central button of the device for 2 seconds in order to turn on AyTerminal. A correct startup is indicated by the LED blinking green and a simple animation is shown on the display Figure 4-8.

Figure 4-8 AyTerminal simple animation

4.2.1Loading screen

In few seconds after LED is ON the AyTerminal loading screen will be displayed, as presented in Figure 4-9.

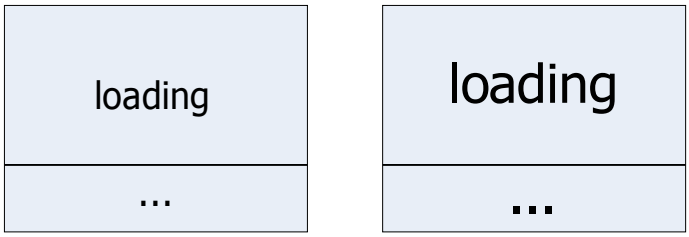


Figure 4-9 AyTerminal loading screen – standard and jumbo mode

4.2.2Emergency call mode

During AyTerminal startup, if there is no SIM card inserted, or the inserted SIM card is not locked to the AyTerminal, only the following menu will be available:

Figure 4-10 AyTerminal emergency call menu structure

Choosing the emergency call item by pressing the accept button it is possible to initiate an emergency call. The GSM mobile phone standard includes **112** as emergency number. In countries where 112 is not the standard emergency phone number the emergency call is redirected to the local emergency phone number, if it exists.

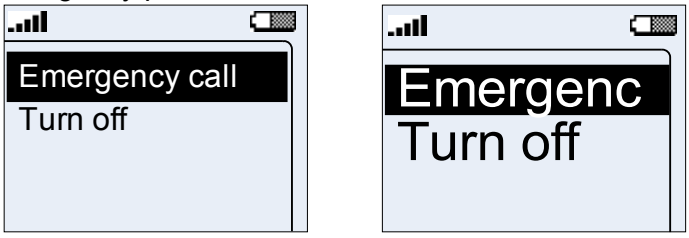


Figure 4-11 Emergency call menu – standard and jumbo mode

4.2.3PIN/PUK input

If the SIM card was inserted correctly and the SIM PIN control is enabled the following screen will be shown. The selected digit can be changed by using the up/down navigation buttons (digit range

from 0 to 9). The PIN is requested to have between 4 and 8 digits. Because of this constraint the OK option is shown and can be selected after the 4th digit was inserted.

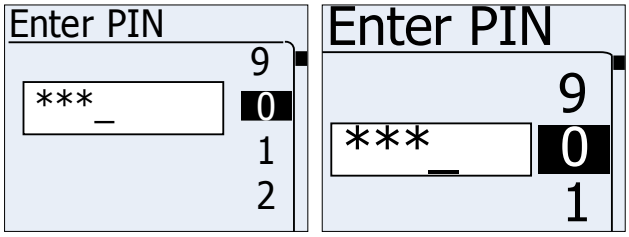


Figure 4-12 PIN input screen – standard and jumbo mode

If the entered PIN is incorrect then a message like in Figure 4-13 is displayed for 3s.

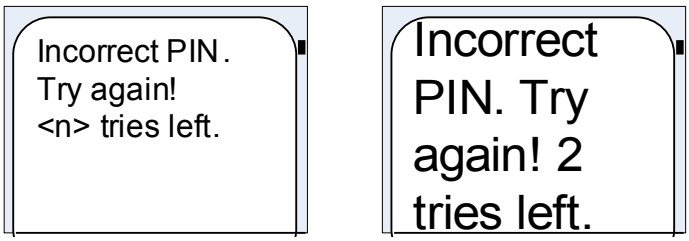


Figure 4-13 Incorrect PIN – standard and jumbo mode

If the PIN is entered false for three times then the PUK is required (see Figure 4-14). The PUK number of digits is fixed to 8 digits. After entering the PUK the PIN will be set to "1234" and a message is shown to the user. For changing the PIN please see chapter 5.8.7. If the PUK is incorrect then a similar message like for wrong PIN is displayed.

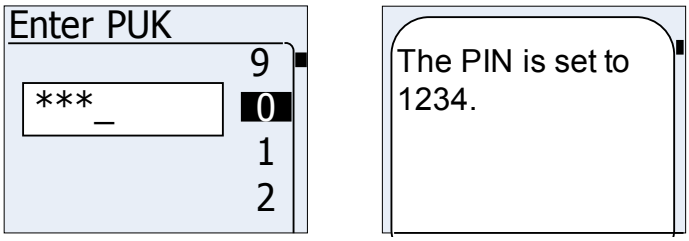


Figure 4-14 PUK input screen – standard screen

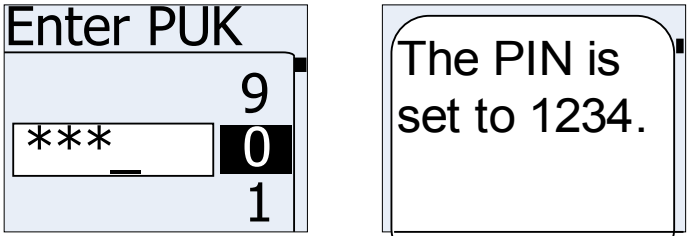


Figure 4-15 PUK input screen – jumbo mode

In case of canceling the PIN/PUK entry by pressing the OK button when the input line is empty, the AyTerminal emergency call menu is displayed.

4.2.4 Boot screen

After entering correctly PIN/PUK the AyTerminal boot screen is displayed, as presented in Figure 4-16.

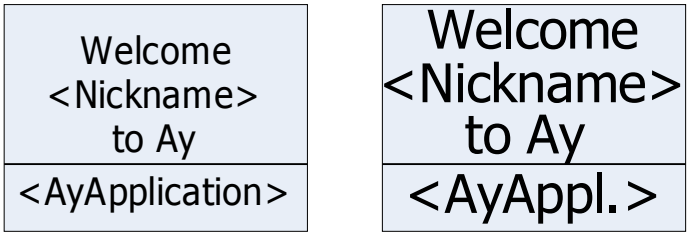


Figure 4-16 AyTerminal boot screen – standard and jumbo mode

If the AyTerminal is not registered to the AyServer then the default nickname is displayed. Default nickname is “John Doe”.

5AyAlarm application

The AyAlarm AyApplication has six modes (see chapter 5.2 for more details). It can be defined how to be notified if an alarm is triggered:

- By sending an SMS to a defined phone number
- By establishing a voice call to a defined phone number
- By informing the AyServer via GPRS
- By playing an alarm sound using the AyTerminal loudspeaker.

Not all the notification types are available for each mode.

A mode can be activated or deactivated. Each mode has a list of configurable values regarding alarm notifiers and/or alarm triggers. These values/ settings are stored in the non-volatile memory when the AyTerminal is turned off normally. The AyTerminal is turned off normally if “Turn Off” item is chosen in main menu.

These settings can be set locally via the AyTerminal menu or can be received from AyServer, synchronized via AyServer interface.

The modes can have defined an activation time period for which are activated (e.g.: For mode “Baggage Secure” the activation time is activated and set to start at 11:30 and end at 22:30). A mode is only activated if it’s started before. Therefore can also be defined which one of the modes has to start-up automatically when the AyAlarm application starts up.

Overall the AyApplication, when an alarm is triggered the status LED is blinking orange/black with frequency of 3 Hz until the mode is deactivated or the alarm duration time has expired. An alarm can be triggered only if a mode is started and active.

5.1AyAlarm menu structure

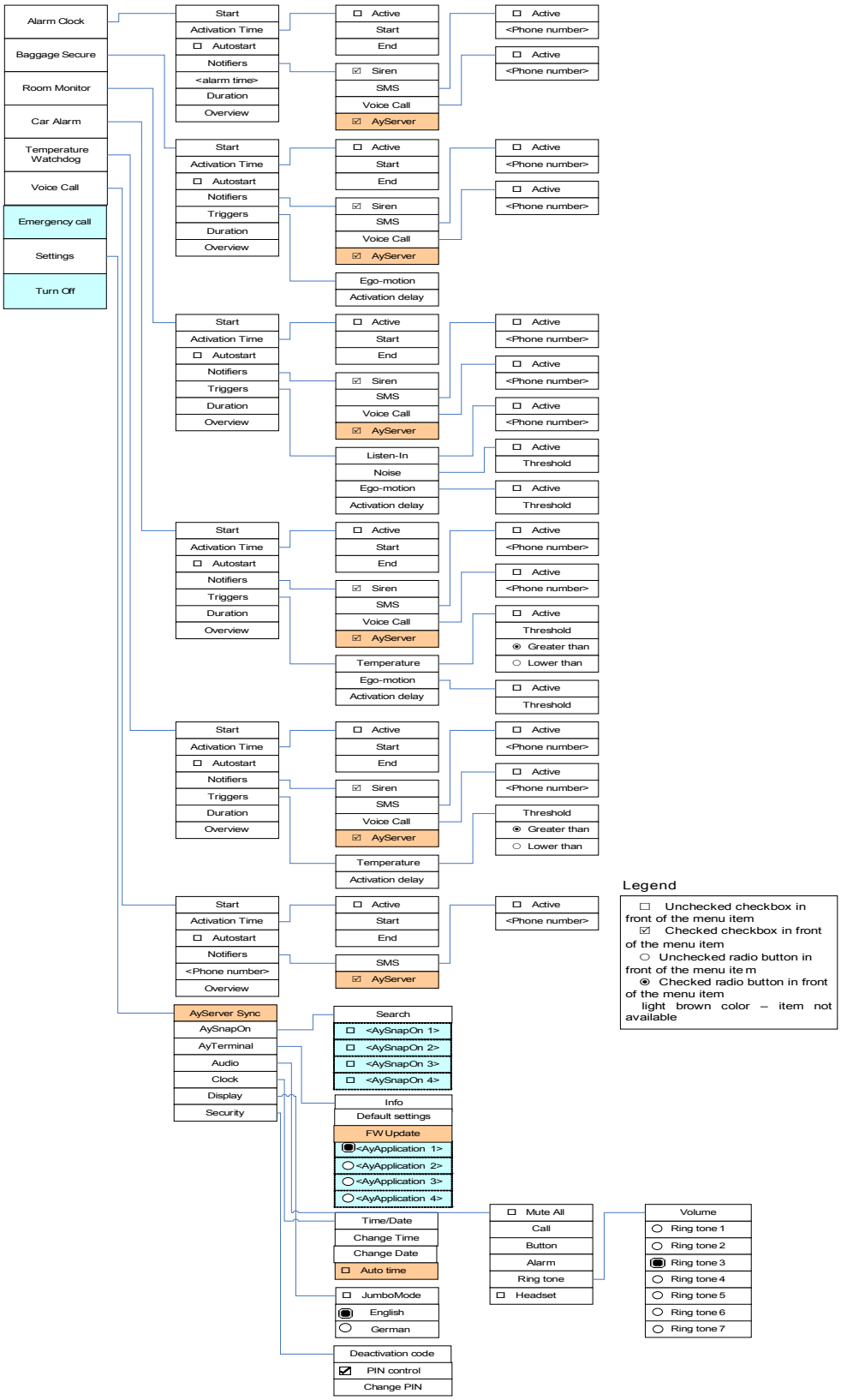


Figure 5-17: AyAlarm menu structure

5.2Modes description

All modes provide a similar menu structure.

5.2.1Alarm clock

This mode provides an alarm clock. A timer can be set on a daily basis. An alarm is triggered when the defined time is reached.
For configurable values and notifiers refer to chapter 5.4.3.

5.2.2Baggage Secure

This mode can be used for the protection of the baggage. The alarm is triggered on the AyTerminal motion detection if the default or the defined threshold value of the ego-motion sensor is reached/ exceeded, which means that the alarm is triggered if the mode is activated (started and active) and the baggage with the AyTerminal inside is moved. For configurable values and notifiers refer to the chapter 5.4.3.

5.2.3Room Monitor

The Room Monitor mode is used with additional accessory designed by Design Affairs. The accessory is used to hang the AyTerminal on a door handle.

Figure 5-18 The AyTerminal with the door accessory added on

The alarm is triggered on the movement of the door or on noise detection. The noise and the AyTerminal ego-motion threshold values can be defined. This mode can be used to alarm when a certain door is opened. Also in this mode the listen-In functionality is provided. If the listen-in phone number is defined it is allowed to call the AyTerminal from the defined number and to listen-in. If no listen-in number is defined the listen-in feature can't be used. For user configurable values and notifiers refer to the chapter 5.4.3.

5.2.4Car Alarm

This mode can be used in cars to trigger alarm when the default or the defined ego-motion or temperature threshold is reached. The Car Alarm mode is used to protect a car against theft or for alarming if the temperature in the car has reached a critical temperature (greater than or lower than). E.g.: if was dog is left in the car an alarm can be triggered when the temperature gets greater than the dog defined temperature. The trigger operator can also be changed (possible values: "greater than" or "lower than"). Only one temperature threshold can be defined and stored for this mode. For configurable values and notifiers refer to the chapter 5.4.3.

5.2.5Temperature Watchdog

In this mode an alarm is triggered when the defined or the default temperature is reached or exceeded ("greater than or lower than). The trigger operator can also be changed (possible values: "greater than" or "lower than"). Only one temperature threshold can be defined and stored for this mode. For configurable values and notifiers refer to the chapter 5.4.3.

5.2.6Voice Call

This mode is used to establish a voice call to one defined phone number pressing the central button for at least 2 seconds. By default there is no phone number defined. A call can be established only after the phone number to be dialled is defined. The voice call can be ended by pressing long (more than 2s) on the central button.

5.2.7 AyAlarm mode specific settings

configurable value	description	format & restrictions	default value
Auto start	flag if mode is enabled to automatically start-up	Boolean false – disabled true – enabled	false
Activation time active	flag if mode is enabled to automatically be activated	Boolean false – disabled true – enabled	false
Activation start time	time that activates the mode	Time format is 24h. hh:mm:ss	00:00:00
Activation end time	time that deactivates the mode	Time format is 24h. hh:mm:ss	12:00:00

Table 5-4 AyAlarm – settings available for all modes

mode	configurable value	description	format & restrictions	default value
Alarm Clock	Duration	* duration of alarm/alarm state (in case of alarm triggered) * time period for activating again the mode if no deactivation code after an alarm was triggered	Time format is hh:mm:ss. Max. 30 minutes Min. 15s. If 0 then duration is ignored and alarm state is forever	1 minute
	Time	time that triggers the alarm	Time format is 24h. hh:mm:ss	12:00:00
	Siren active	flag if siren enabled	Boolean false – disabled true – enabled	true
	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Alarm Clock Alarm
	Voice Call notifier active	flag if Voice Call notifier enabled	Boolean false – disabled true – enabled	false
	Voice call phone number	target phone number for voice call	Max. 15 characters. If not defined voice call is not started	none
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true

mode	configurable value	description	format & restrictions	default value
Baggage Secure	Duration	* duration of alarm/alarm state (in case of alarm triggered) * time period for activating again the mode if no deactivation code after an alarm was triggered	Time format is hh:mm:ss. Max. 30 minutes Min. 15s. If 0 then duration is ignored and alarm state is forever	30s
	Siren active	flag if siren enabled	Boolean false – disabled true – enabled	true
	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Baggage Secure Alarm
	Voice Call notifier active	flag if Voice Call notifier enabled	Boolean false – disabled true – enabled	false
	Voice call phone number	target phone number for voice call	Max. 15 characters. If not defined voice call is not started	none
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true
	Ego-motion threshold	intensity of AyTerminal movement that triggers the alarm	range of 0g - 3,6g in percentage (0%-100%). Axis is Vector.	28%
	Sensor activation delay	time until the sensors are armed after activating the mode	Time format is hh:mm:ss. Max. 255s.	30s

mode	configurable value	description	format & restrictions	default value
Room Monitor	Duration	* duration of alarm/alarm state (in case of alarm triggered) * time period for activating again the mode if no deactivation code after an alarm was triggered	Time format is hh:mm:ss. Max. 30 minutes Min. 15s. If 0 then duration is ignored and alarm state is forever	5 minutes (300s)
	Siren active * ignored in case of Listen-In	flag if siren enabled	Boolean false – disabled true – enabled	true
	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Room Monitor Alarm
	Voice Call notifier active * ignored in case of Listen-In	flag if Voice Call notifier enabled	Boolean false – disabled true – enabled	false
	Voice call phone number * ignored in case of Listen-In	target phone number for voice call	Max. 15 characters. If not defined voice call is not started	none
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true
	Ego-motion active	flag if ego-motion sensor enabled	Boolean false – disabled true – enabled	true
	Ego-motion threshold	intensity of AyTerminal movement that triggers the alarm	Range of 0g - 3,6g in percentage (0%-100%). Axis: Vector.	4%
	Noise	flag if noise sensor enabled	Boolean false – disabled true – enabled	true
	Noise threshold	environment noise that triggers the alarm	In percentage from 0 – 100%.	80%
	Sensor activation delay	time until the sensors are armed after activating the mode	Time format is hh:mm:ss. Max. 255s	30s
	Listen-in active	flag if listen-in function enabled	Boolean false – disabled true – enabled	true
	Listen-in phone number	Phone number that is allowed to use the listen in	Max. 15 characters. If not	none

mode	configurable value	description	format & restrictions	default value
Car Alarm	Duration	* duration of alarm/alarm state (in case of alarm triggered) * time period for activating again the mode if no deactivation code after an alarm was triggered	Time format is hh:mm:ss. Max. 30 minutes Min. 15s. If 0 then duration is ignored and alarm state is forever	5 minutes
	Siren active	flag if siren enabled	Boolean false – disabled true – enabled	true
	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Car Alarm Alarm
	Voice Call notifier active	flag if Voice Call notifier enabled	Boolean false – disabled true – enabled	false
	Voice call phone number	target phone number for voice call	Max. 15 characters. If not defined voice call is not started	none
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true
	Ego-motion active	flag if ego-motion sensor enabled	Boolean false – disabled true – enabled	true
	Ego-motion threshold	intensity of AyTerminal movement that triggers the alarm	range of 0g - 3,6g in percentage. Axis: vector.	24%
	Temperature active	flag if temperature sensor enabled	Boolean false – disabled true – enabled	true
	Temperature threshold	temperature value that triggers the alarm	-20°C - +50°C in 1°C steps	0°C
	Trigger Operator	Triggers the alarm if the configured temperature is greater than or lower than the current temperature	greater than, lower than	lower than
	Sensor activation delay	time until the sensors are armed after activating the mode	Time format is hh:mm:ss. Max. 255s.	30s

mode	configurable value	description	format & restrictions	default value
Temperature Watchdog	Duration	* duration of alarm/alarm state (in case of alarm triggered) * time period for activating again the mode if no deactivation code after an alarm was triggered	Time format is hh:mm:ss. Max. 30 minutes Min. 15s. If 0 then duration is ignored and alarm state is forever	5 minutes
	Siren active	flag if siren enabled	Boolean false – disabled true – enabled	true
	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Temperature Watchdog Alarm
	Voice Call notifier active	flag if Voice Call notifier enabled	Boolean false – disabled true – enabled	false
	Voice call phone number	target phone number for voice call	Max. 15 characters. If not defined voice call is not started	none
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true
	Temperature threshold	temperature value that triggers the alarm	-20°C - +50°C in 1°C steps	40°C
	Trigger Operator	Triggers the alarm if the configured temperature is greater than or lower than the current temperature	greater than, lower than	greater than
	Sensor activation delay	time until the sensors are armed after activating the mode	Time format is hh:mm:ss. Max. 255s	30s

mode	configurable value	description	format & restrictions	default value
Voice Call	SMS notifier active	flag if SMS notifier enabled	Boolean false – disabled true – enabled	false
	SMS phone number	target phone number for SMS	Max. 15 characters. If not defined SMS is not send out	none
	SMS text	Text to be sent via SMS in case of alarm	Max. 160 characters	Voice Call Alarm
	AyServer active	flag if AyServer notifier enabled	Boolean false – disabled true – enabled	true
	Phone number	Phone number that will be dialled	-	-

Table 5-5 AyAlarm mode specific settings

5.2.8 AyAlarm alarms and notifiers

mode	alarm name	description	available notifiers	default notifiers
Alarm Clock	Time	triggered if defined time reached	Siren, SMS, Voice Call, AyServer	Siren, AyServer
Baggage Secure	Baggage	triggered if ego-motion sensor activated	Siren, SMS, Voice Call, AyServer	Siren, AyServer
Room Monitor	Room activity	triggered if ego-motion or noise sensor activated	Siren, SMS, Voice Call, AyServer	Siren, AyServer
	Room listen-in[1]	triggered if an incoming voice call received	-	-
Car alarm	Car temperature	triggered if temperature sensor activated	Siren, SMS, Voice Call, AyServer	Siren, AyServer
	Car movement	triggered if ego-motion sensor activated	Siren, SMS, Voice Call, AyServer	Siren, AyServer
Temperature watchdog	Temperature	triggered if temperature sensor activated	Siren, SMS, Voice Call, AyServer	Siren, AyServer
Voice call	Voice call1	triggered if a voice call is triggered	SMS, AyServer	AyServer

Table 5-6 AyAlarm alarms and notifiers

5.3 Selecting a mode

When turning on the AyTerminal and starting the AyAlarm application, and if no mode is set to auto start, the main menu (see Figure 5-19) is displayed. If a mode is set to auto start, the defined mode is started automatically.

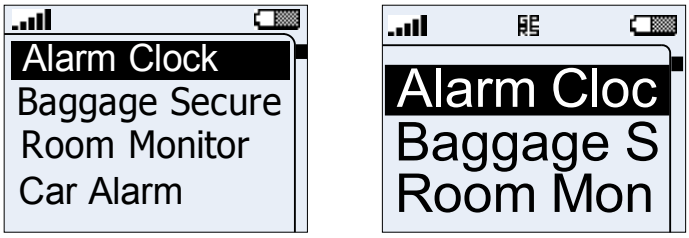


Figure 5-19 The AyAlarm main menu

The AyAlarm available modes are listed in the AyAlarm main menu together with other available options (Setup, Emergency Call and Turn Off) and are presented as a scrollable list of items (Figure 5-19). The scroll bar indicator position is updated when selected item in the menu is changed. The items of the main menu are:

- Alarm Clock

[1] Alarm is triggered after the voice call ends

- Baggage Secure
- Room Monitor
- Car Alarm
- Temperature Watchdog
- Voice Call
- Emergency Call
- Settings
- Turn Off

By default the first menu item is selected. Everywhere in the AyApplication the menu is circular which means that after the last item comes the first item and in front of the first item is the last item. If Back button is pressed in a menu the previous menu is displayed with the proper selected item.

For example: From the main menu Baggage Secure item is selected by pressing the OK button. The following displayed screen will be the Baggage Secure menu screen (see Figure 5-20). Pressing the cancel button in this second screen shows the previous screen (main menu) in which Baggage Secure item is shown as selected.

For selecting a mode first search it in the menu using the up/down navigation buttons until the desired mode is highlighted and after that click on the OK button in order to be forwarded to the next screen (enter/next). In this main menu screen the left button action is not applicable.

In the main menu the status icons are displayed. No title is available for this screen.
Switching between the modes is possible without restarting the AyTerminal.
Note! By switching between the AyApplications the AyTerminal must be restarted.

In the main menu Alarm Clock, Baggage Secure, Room Monitor, Car alarm, Temperature Watchdog and Voice Call are the AyApplication modes. When selecting one of these items in the main menu the mode menu is displayed (see Figure 5-20).

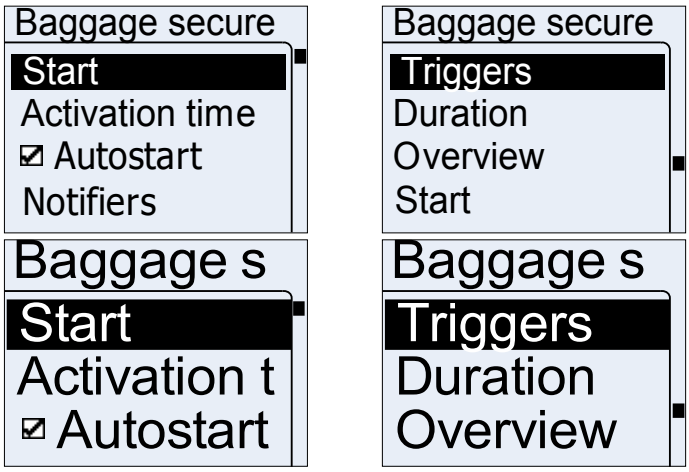


Figure 5-20 "Baggage Secure" menu in standard and jumbo mode

For each mode the mode menu contains the following menu items:

- Start
  – to start the mode. For details refer to the chapter 5.5.
- Activation time
  – to set the activation time for this mode and activate it. For details refer to the chapter 5.4.1.
- Autostart
  – to define if selected mode should be automatically started on the AyAlarm start-up. For details refer to the chapter 5.4.2.

- Notifiers
  – to configure the alarm notifiers of this mode. For details see the chapter 5.4.3.
- Triggers
  – to configure the alarm triggers of this mode. For details see the chapter 5.4.4.
- Duration (except the “Voice Call” mode)
  – to configure the time period while the mode should remain in alarm state since the alarm was triggered
- Overview
  – to have an overview of all settings for the selected mode

In the mode menu screen the mode name is displayed as title. No status icons are displayed in this screen. The scroll bar is always shown.
As long as no mode is started the green LED will blink. This means that in main and mode menu the green LED is blinking.
The available buttons and screen’s functionality are the same as in every menu screen.

5.4Configuring a mode

All modes are configurable via the AyTerminal and also via the AyServer GUI. The AyAlarm application allows activating / deactivating and configuring a set of sensors (named alarm triggers) with threshold values and operators when to trigger an alarm and the notifiers when an alarm is triggered. In order to be able to start a mode, at least one trigger must be activated. The notifiers of a mode can be deactivated. In this case before the mode is started a warning message will be displayed.

5.4.1Activation Time

From the “Activation time” menu it is possible to:

- enable the activation time. This means that the mode will be active only for the defined period of time (e.g. 1 hour, between 10:30 and 11:30). In this case when the end time is reached the mode becomes idle.
- define the activation start time (see next section) (e.g. 10:30)
- define the activation end time for a mode on a daily basis (see the next section) (e.g. 11:30)

Upon selecting one of the “Start” or “End” menu items, the time can be entered in a time editor.
The time format is 24h.
The colons are displayed after the second and fifth digits are inserted.
For adding a new digit in the input area navigate through the displayed characters (right side of the screen) using the up/ down navigation buttons until the needed character is selected and then press the enter button (OK button).
To leave one of the two previous screens and to set the value, first select OK and then press the enter button (OK button).

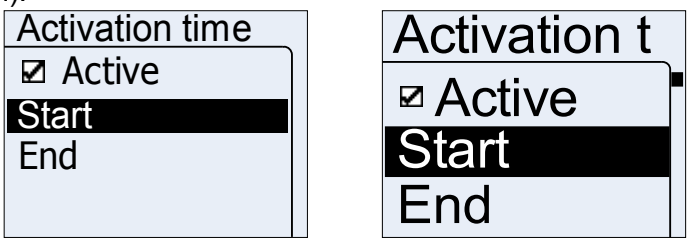


Figure 5-21 Activation time menu

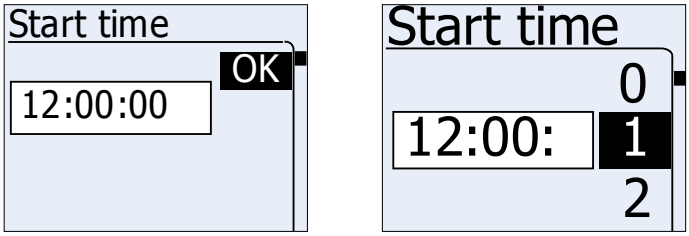


Figure 5-22 Activation time – Set start time screen

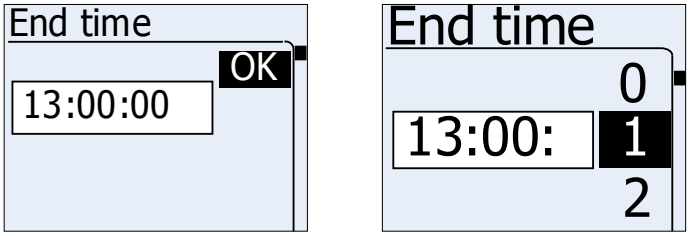


Figure 5-23 Activation time – Set end time screen

The activation time is applied to the mode as long as the “Active” check box is checked. To disable the activation time uncheck the “Active” check box in the “Activation time” menu (see Figure 5-21 Activation time menu).

Note! Only one mode can have the activation time active**.** The other modes will have activation time option disabled automatically.

Examples:

1. Start and end time for “Room Monitor” mode: 11:00 and 15:00. The “Active” item in the menu is checked, which activates the defined activation time. The “Car Alarm” mode was configured with inactive activation time, which makes the mode immediately active when starting it. At 9:00 the “Car Alarm” mode is started and its status is active. At 11:00 the “Room Monitor” mode becomes active and the “Car Alarm” mode is stopped. The “Room Monitor” mode remains active until 15:00 o’clock, when the “Car Alarm” becomes active again and the “Room Monitor” is stopped. If no change is made, the same scenario is repeated the next day. In Figure 5-24 Activation time example 1 the mode is deactivated at 16:00.

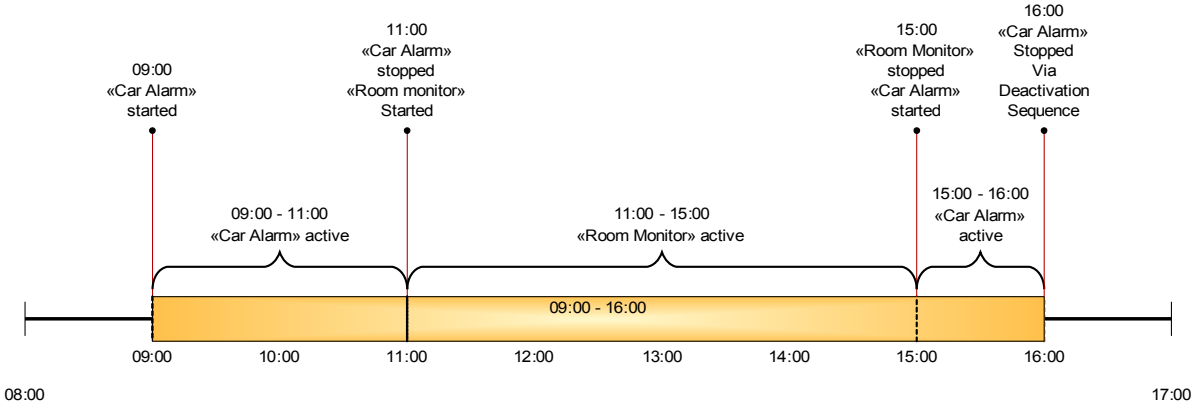


Figure 5-24 Activation time example 1

2. Start and end time for the “Car Alarm” mode: 11:00 and 15:00. The “Active” item in the menu is checked (which activates the defined activation time activated). At 9:00 the mode “Car Alarm” mode is started. Because of the activated activation time the status of “Car Alarm” is idle. At 11:00 the mode becomes active and the status on the display is updated. The mode becomes again idle when the end time is reached (15:00 o’clock). If no change is made, the same scenario will be repeated the next day. In Figure 5-25 Activation time example 2 the mode is deactivated at 16:00.

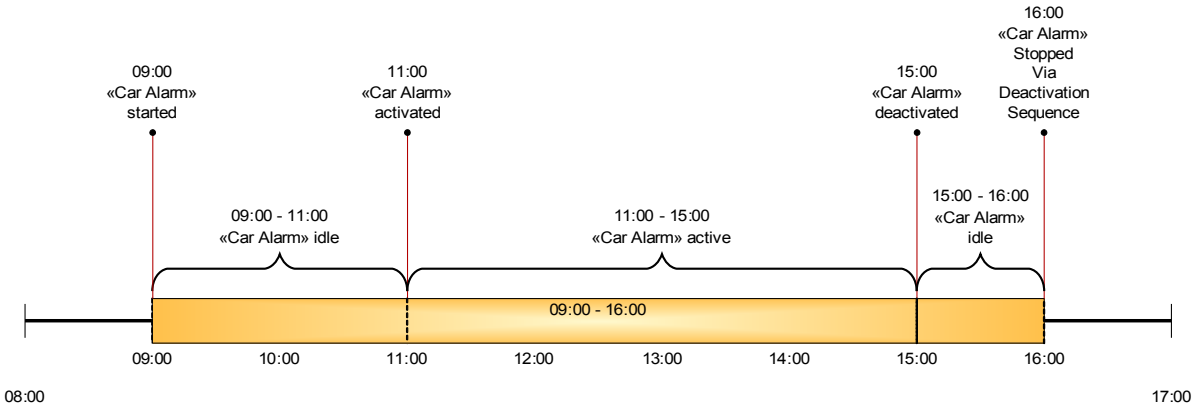


Figure 5-25 Activation time example 2

3. Start and end time for “Car alarm” mode at 11:30: 11:00 and 15:00, respectively. The “Active” item in the menu is checked, which activates the defined activation time. At 11:30 the mode “Car Alarm” mode is started manually. Because of the activated activation time the status of “Car Alarm” is idle. At 11:00 next day the mode becomes active and the status

on the display is updated. The mode becomes again idle when the end time is reached (15:00 o'clock). If no change is made, the same scenario will be repeated the next day. In Figure 5-26 Activation time example 3 the mode is deactivated at 17:00.

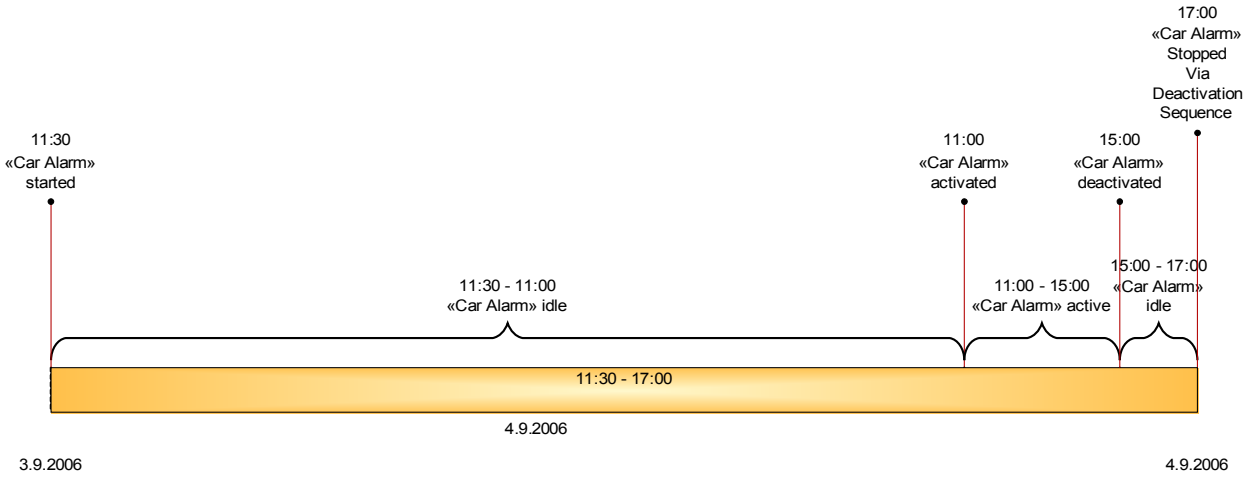


Figure 5-26 Activation time example 3

5.4.2 Auto start

The Auto start option can be enabled (checked) or disabled (unchecked). If this option is enabled for a mode this mode is started automatically when the AyTerminal is turned on. Only one mode can have this option enabled. The other modes will have Auto start option disabled.

5.4.3 Notifiers

Each mode has its own list of notifiers and each one of them is configurable independently. Almost all modes (except "Voice Call") have Siren, SMS, Voice Call and AyServer as common notifiers. When an alarm is triggered, activated notifiers are going to be the only ones informed.

The notifiers are informed in the following sequence:

1. The SMS is send to the defined phone number
2. A Voice Call to the defined phone number is established
3. The Siren will be turned on
4. The AyServer is informed by sending alert to it using HTTP

In the mode menu (see Figure 5-20) the "Notifiers" item can be selected. The next displayed screen is the "Notifiers" menu (see Figure 5-27).

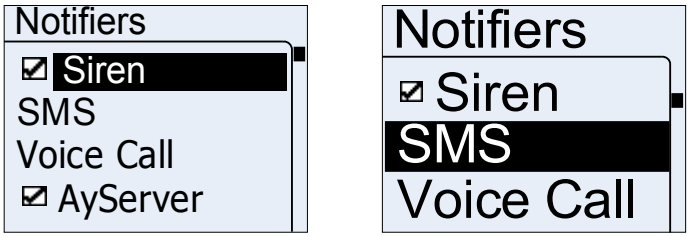


Figure 5-27 Setup notifiers menu

In this screen the title is displayed and no status icons are available. The scroll bar is displayed always.

5.4.3.1 Siren

This notifier can be activated or deactivated. The parameter value for siren (volume) is part of the AyTerminal configuration. This means that the siren volume can be configured from Settings menu. The Siren is an internal tone and not one of the 7 predefined ring tones.

5.4.3.2SMS

The SMS data are: the phone number and the message text. The message text can not be defined/ modified on AyTerminal. For each mode there is a default value for SMS text defined (see Table 5-5 AyAlarm mode specific settings) and it can be changed only using the web GUI.

This notifier can be activated or deactivated. The phone number to send the SMS can be changed.
Moving through the menu items is possible by using the up/ down buttons. The effect of these actions is scrolling the menu up/ down.
If the highlighted item is “Active” then pressing the right button will check or uncheck the item.
If the highlighted item is “<phone number>” then pressing the OK button opens the Phone number editor for adding/ editing the current value (see Figure 5-29).
Pressing the left button of the device leads to the previous screen (Notifiers menu).
In SMS setup screen the status icons are not displayed. Instead a suggestive title is displayed.

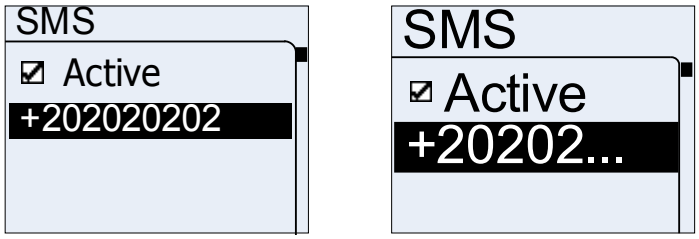


Figure 5-28 SMS setup menu

If the phone number is not defined then in the menu will appear “<Enter Nr.>”.

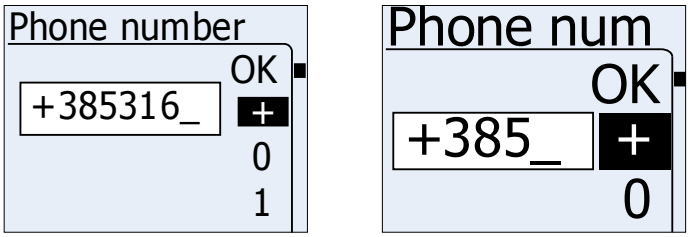


Figure 5-29 Set phone number screen

The available characters are: + and 0…9.
Using the up/ or down navigation buttons the user can browse the displayed characters or select OK.
To add a new characters press the Enter (OK) navigation button after highlighting the desired character. To delete the last inserted character use the left navigation button. When no character is available in the input area, pressing the cancel button redirects to the previous screen.
To save the set value first select the OK option and after that press the right button (marked with OK).
~~The only validation that is made for the inserted phone number is to be in international format (to start with +).~~
Only one phone number can be defined for SMS notification.
No acknowledgment tone will be played in the previous described screen above.

5.4.3.3Voice Call

This notifier can be activated or deactivated. The configurable value of this notifier is the phone number to be dialled.
Moving through the menu items is possible by using the up/ down buttons. The effect of these actions is scrolling the menu up/ down.
If the highlighted item is “Active” then pressing the right button will check or uncheck the item.
If the highlighted item is “<phone number>” then pressing the right button will redirect the user to the edit phone number screen. The “<phone number>” means that the current set phone number

will be displayed in the menu. If the phone number is not defined then in the menu will appear "<Enter Nr.>".
Pressing the left button of the device leads to the previous screen.
In "Voice Call" menu the status icons are not displayed. Instead a suggestive title is displayed.

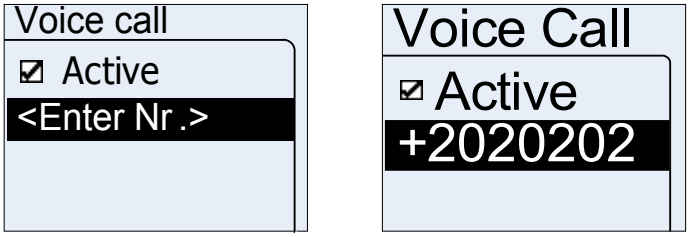


Figure 5-30 Voice Call setup menu

The phone number can be added or modified through a phone number editor:

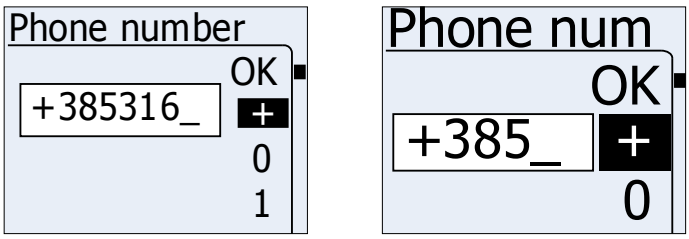


Figure 5-31 Set phone number screen

The available characters are: + and 0…9.
Using the up or down navigation buttons scrolling through displayed characters is possible or selecting OK.
To add a new character press the Enter navigation button after highlighting the desired character. To delete the last inserted character use the left navigation button. When no character is available in the input area, pressing the cancel button redirects to the previous screen.
To save the set value first select OK option and after that press the right button.
~~The only validation that is made for the inserted phone number is to be in international format (to start with +).~~
Only one phone number can be defined for SMS notification.
No acknowledgment tone will be played in previous described screen.
An established Voice Call can be ended by pressing long on the central button. If also voice call and siren are set as notifiers first the voice call is established and after voice call is finished the siren is played for the defined duration.

5.4.3.4AyServer

This notifier can just be activated/ deactivated. If the AyServer option is checked then an alert will be sent to the AyServer when an event occurs. This item is only available if the AyTerminal is registered to the AyServer (initial SMS was received from AyServer).
Activating or deactivating AyServer as notifier is done by checking or un-checking the option in the "Notifiers" menu (see Figure 5-27). To check or uncheck AyServer item select it and after that press the right button.
If the data needed to be able to connect to AyServer is not available in the system then the AyServer item in "Notifiers" menu will be displayed strikethrough. A strikethrough item can not be selected.

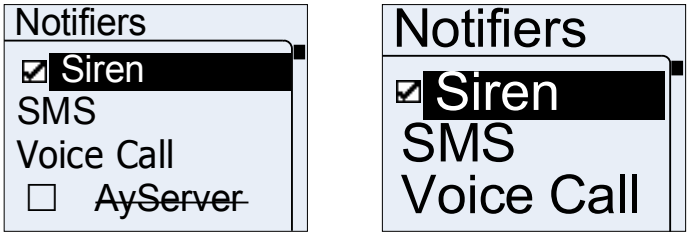


Figure 5-32 AyServer not available case

5.4.4 Triggers

Each mode has its own list of alarm triggers and each one of them is configurable independently. At least one trigger has to be activated. If one mode has only one trigger than this one will be activated by default.

Note: At least one trigger per mode has to be activated, if the mode is specified with triggers.
For “Car Alarm”, “Baggage Secure”, “Room Monitor” and “Temperature Watchdog” modes triggers are grouped under the “Triggers” menu.
The mode “Voice Call” and “Alarm Clock” have no triggers menu; instead of “Triggers” the “<Phone number>” menu item is displayed in case of “Voice Call”, and “<alarm time>” in case of “Alarm Clock”.
Each mode has a different list of triggers (see next figures).
Possible actions in each screen are:

- Navigating through the items using the up or and down buttons
- Selecting the highlighted item using the OK button
- Going back to the previous screen using the Cancel button

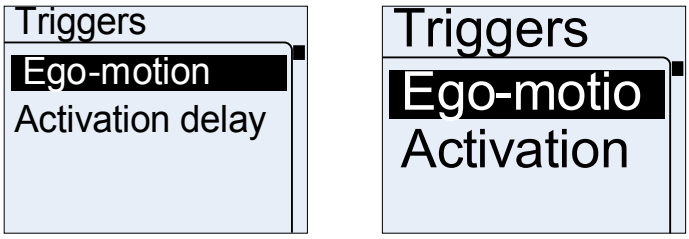


Figure 5-33 Setup triggers menu for Baggage Secure mode

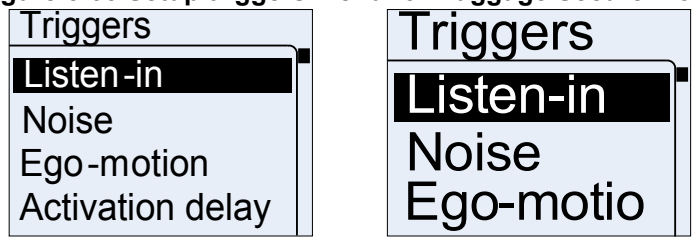


Figure 5-34 Setup triggers menu for Room Monitor mode

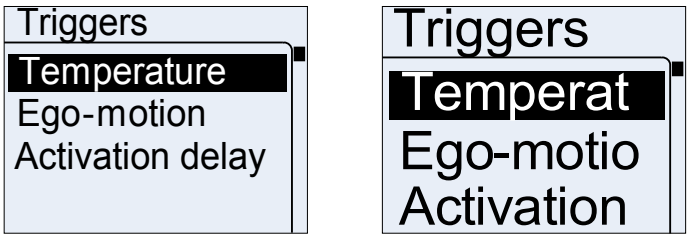


Figure 5-35 Setup triggers menu for Car Alarm mode

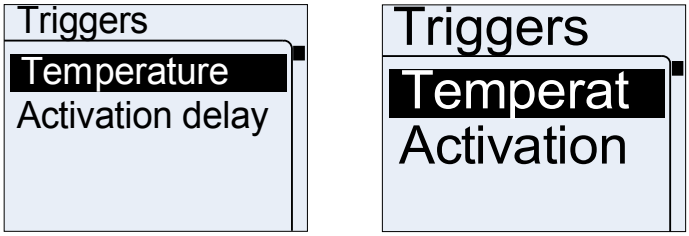


Figure 5-36 Setup triggers menu for Temperature watchdog mode

In case of the Voice Call mode the user has the possibility to define a phone number where to call instead of the "Triggers" option (see Figure 5-37). The phone number is the actual set phone number (e.g. +407777773333). If the phone number is not defined then the "<Enter Nr.>" line will be displayed in the menu.

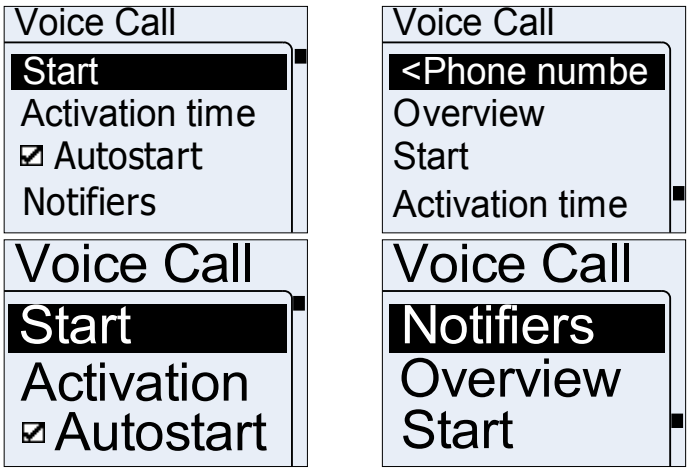


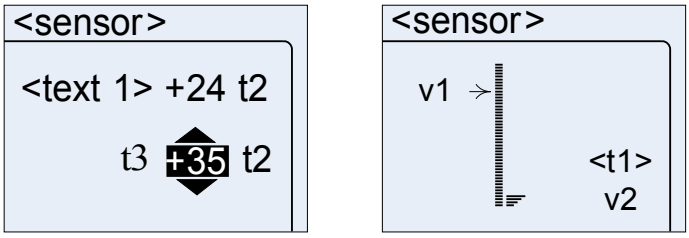
Figure 5-37 Settings menu in Voice Call mode

Also the overview screen contains different data than for the other modes (see 5.4.6).
Each trigger can be activated/ deactivated if it is not the only one defined for that mode.
Each trigger has its own list of parameters to be set. At least one alarm trigger has to be activated when the mode is started.
It is defined that if there is only one trigger per mode then that trigger is automatically activated.
To set a sensor threshold value one of the sensor calibration screens will be shown. This screen contains the following information:

- Currently measured sensor value
- Current threshold value
- Additional text to describe the shown values (see Figure 5-38)

See each sensor description to see value range.

Generic screens:



Examples in jumbo mode:

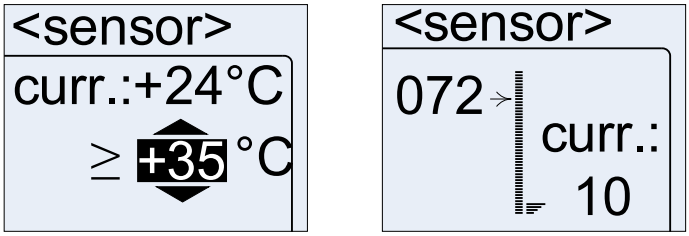


Figure 5-38 Sensor setup screens

5.4.4.1Listen-In

The following menu is provided for setting the Listen-In parameter values:

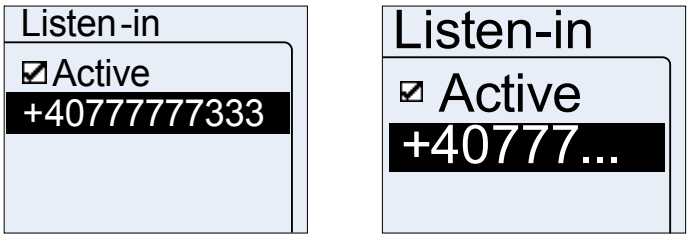


Figure 5-39 Setup Listen-In trigger

The phone number is the currently set phone number (e.g. +407777773333). If the phone number is not defined then the "<Enter Nr.>" line will be displayed in the menu.
The available buttons and the screen's functionality are the same as in every menu screen. For listen-in the phone number can be defined though phone editor (see Figure 5-40). If Listen-In is active then the phone with the specified number will be able to listen in where the AyTerminal is placed after establishing a voice call with the AyTerminal. The voice call in this case does not trigger the AyTerminal to play any ring tone. The connection is made silently and automatically.
If the phone number is not defined then in the menu will appear "<Enter Nr.>".

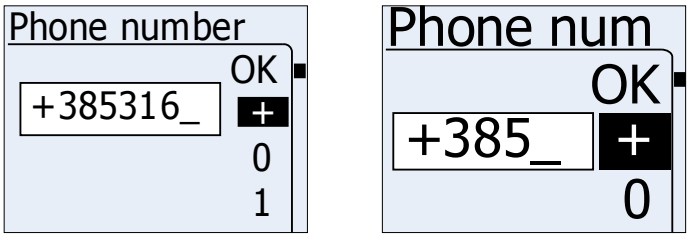


Figure 5-40 Set phone number screen

The available characters are: + and 0…9.
Using the Up/ Down navigation buttons the displayed characters can be browsed or OK selected.
For adding new characters press the right navigation button. The selected character will be added.
For deleting the last inserted character use the left navigation button. When no digit is available in the input area, pressing the cancel button redirects to the previous screen. For saving the set value first select OK option and after that press the Enter button (OK button). If any problem occurred while saving the phone number a message box containing a proper message is displayed. Otherwise the previous screen will be shown without any notification.
~~The only validation that is made for the inserted phone number is to be in international format (to start with +).~~
Only the defined phone number can listen in where the AyTerminal is placed.

5.4.4.2Timer

For timer the alarm time can be defined through a time editor (Figure 5-41). For Alarm Clock mode an alarm for a defined time can be set on a daily basis, where the default value is 12 o'clock. The time is in 24h format (hh:mm:ss). When the defined time is reached an alarm is triggered. The function is the same as an alarm clock.

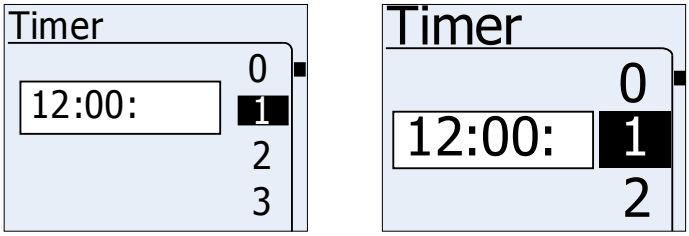


Figure 5-41 Set alarm clock screen

The colons are displayed after the second and fifth digits are inserted. OK option is displayed only after inserting the time in complete format (hh:mm:ss). To leave this screen and set the value the user must first select OK option and then press the enter button.

5.4.4.3Ego-motion

The following menu is provided for setting the ego-motion parameter value:

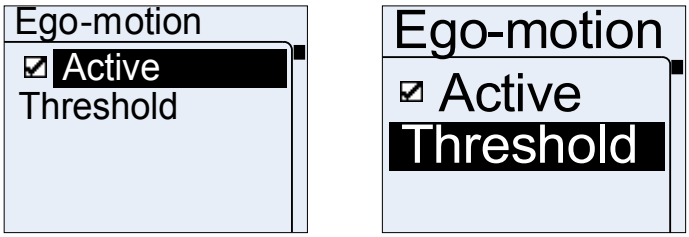


Figure 5-42 Setup ego-motion menu screen

The available buttons and screen's functionality are the same as in every menu screen.

Note! If the ego-motion trigger is the only trigger for a mode then the "Active" option is missing from the menu screen (e.g. Baggage Secure mode).
The setup menu allows setting one threshold which is applied to all three axes of the ego-motion sensor. It is not possible to define a threshold on a combination of different axes, e.g. alarm triggering on a resulting vector of one or two axes. The alarm is triggered on ego-motion detection if the default or defined threshold value of the ego-motion sensor is exceeded.
The scale for the axis is 0g to +3,6g in 26 steps (0-100%). One step is 4%.

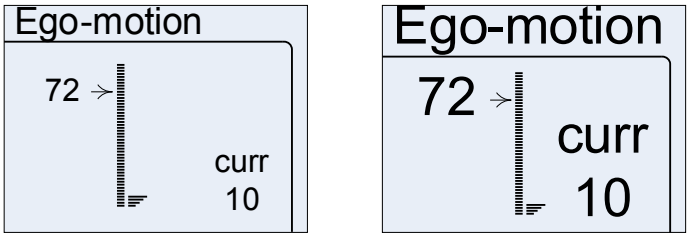


Figure 5-43 Set motion sensitivity

Possible actions in each screen are:

- Increasing or decreasing the threshold value using the up/ down buttons
- Request to save set threshold value using the right button (OK button)
- Going back to the previous screen without saving any changes using left button

No validations are made when leaving this screen.
If any problem occurred while saving the data a message box screen containing a proper message is displayed. The message text is: "The value could not be saved. Please try again". Otherwise previous screen is shown without notification.

5.4.4.4Noise

The following menu is provided for setting noise parameters values:

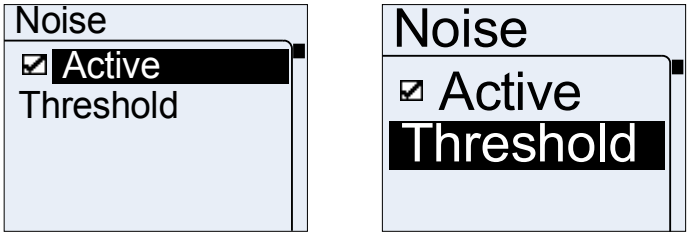


Figure 5-44 Setup ego-motion menu screen

The available buttons and screen's functionality are the same as in every menu screen. Using a sensor adjustment screen the noise threshold can be set (see Figure 5-45 Noise adjustment screen). Reaching or exceeding this level triggers the defined alarms. For sensing the noise the AyTerminal microphone will be used as for GSM voice call. The alarm threshold can be defined in 26 steps of a range from 0 to 1000 dB_A. On the screen the threshold can be seen in percentages from 0 to 100% and increasing step is 4%.

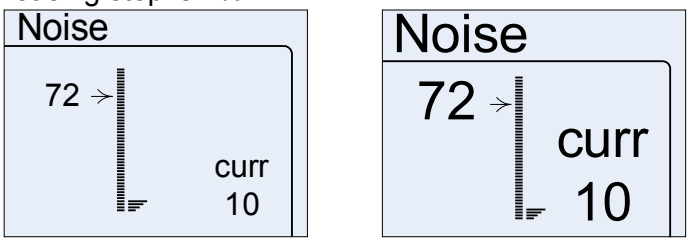


Figure 5-45 Noise adjustment screen

Possible actions in each screen are:

- Increasing or decreasing the threshold value using the up/ down buttons
- Request to save set threshold value using right button (OK button)
- Going back to previous screen without saving any changes using left button

No validations are made when leaving this screen.
If any problem occurred while saving the noise threshold a message box containing a proper message is displayed. The message text is: "The value could not be saved. Please try again". Otherwise the previous screen is shown without notification.

5.4.4.5Temperature

The following menu is provided for setting temperature parameters values:

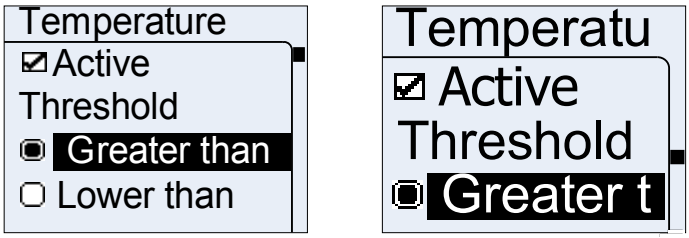


Figure 5-46 Setup temperature menu screen

The available buttons and screen's functionality are the same as in every menu screen.
The items in the Temperature setup menu are:

- Active – item with a check box in front of it
- Threshold
- Greater than – item with a radio button in front of it
- Lower than - item with a radio button in front of it

Only one of the items with radio button in front of it can be selected at a moment.
By using the sensor adjustment screen the temperature threshold can be set (see Figure 5-47). Reaching or exceeding this threshold triggers the defined alarms.
Possible temperature-range: -55°C to +200°C in steps of 1°C.

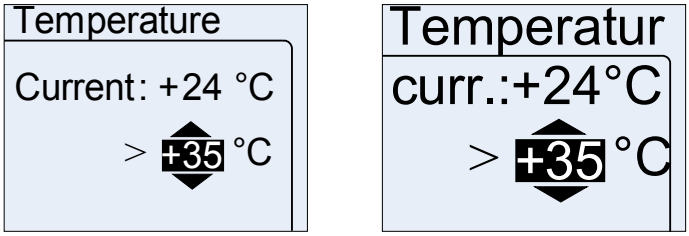


Figure 5-47 Temperature adjustment screen

The first threshold value of the sensor is the default value (the default value can not be modified using the AyApplication).
To increase/ decrease the threshold value use the up/ down buttons.
To leave this screen and to save the value press the Enter button (OK button). In this moment the entered value will be saved and previous screen is shown.
To leave this screen and returning to previous screen without changing the threshold press the Cancel button.
No validations are made when leaving this screen.
If any problem occurred while saving the threshold a message box containing a proper message is displayed. The message text is: “The value could not be saved. Please try again”. The message box with the defined message is shown for 4 seconds. Otherwise previous screen without notification is shown.

5.4.4.6Activation delay

Between the moment of activating the mode and activating the sensor there can be a delay. This delay is called Activation delay; it is configurable. The set time is applied to all sensors used and activated for the selected mode. This option is useful when some time is needed to place the AyTerminal in the desired place (e.g. baggage) after activating a mode.
The activation delay is set in seconds, up to 255 seconds.

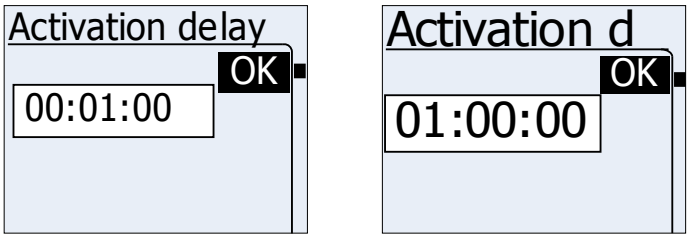


Figure 5-48 Set activation delay screen

Enter a new Activation delay value. To leave this screen and set the value first select OK and after that press the enter button. In this moment the entered number is validated and if greater than 255s then the device will play a negative acknowledge tone and for 4 seconds will display a message box with a defined text (“Activation delay can’t be more than 255s”). After that the previous menu is displayed. Otherwise it will play a positive acknowledge tone and will return to previous screen.

5.4.5Duration

Using this menu item it is possible to define the time for that the mode is set into the alarm state if an alarm is triggered. Also the same time is used to set the time for that the Siren is activated. Minimum value for duration is 15s and maximum is 30 minutes. If duration is set to 0 (special case), the state alarm is left only on deactivation code (“forever alarm”).

5.4.6Overview

Purpose is to overview the mode settings in a message box with all set values (see Figure 5-49).

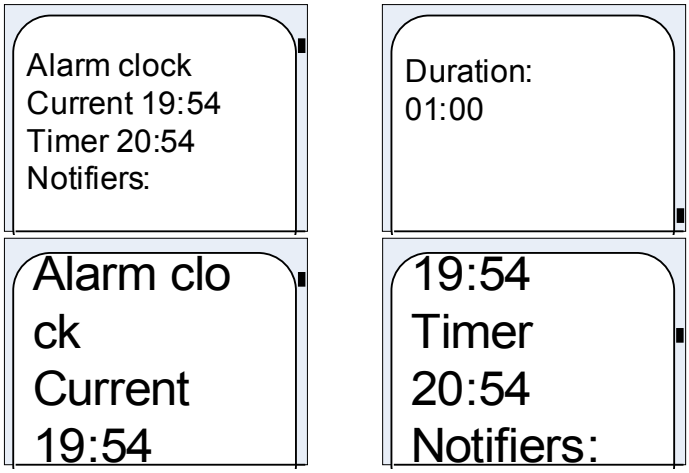


Figure 5-49 Overview screen for Alarm Clock mode

The overview screen contains the following data:

- List of active triggers. For each trigger the threshold value and the operator (>, <) will be displayed.
- Activation delay in seconds
- List of active notifiers. If a phone number for SMS or Voice Call is defined the phone number will be displayed in brackets also.
- Alarm duration in seconds

In case of the “Alarm Clock” mode the “Triggers” item is replaced by “<alarm time>” menu item; therefore the Overview screen contains following data:

- Current time/ The set alarm time
- List of active notifiers. If a phone number for SMS or Voice Call is defined the phone number will be displayed in brackets also.
- Alarm duration in seconds

Example of displayed data in case of Alarm clock menu with Siren and AyServer as notifiers active and with defined time:
“*Alarm clock*
Current 19:54
Timer 21:30
Notifiers: Siren, AyServer
Duration: 00:00:30”.
The text will be wrapped and the user will be able to see screen’s content by scrolling it using the up and down navigation buttons.

In case of the “Voice Call” mode, the “Triggers” item is replaced by the “Phone number” menu item; therefore the Overview screen contains different data:

- The set phone number where the voice call will be made
- List of active notifiers. If a phone number for SMS or Voice Call is defined the phone number will be displayed in brackets also.

Using the left button the previous screen is displayed (Mode menu).
If the information is not fitting in one screen (one screen has 20 lines in standard and also jumbo mode) then the text is split in more message boxes. Going from one message box to another is possible by pressing the OK button.

5.5Activating/Starting a mode

A configured mode can be started by choosing “Start” in the mode menu. If the Activation time is checked the mode is first going in idle status and is activated at the specified time. Else the mode is activated immediately when “Start” option is chosen.

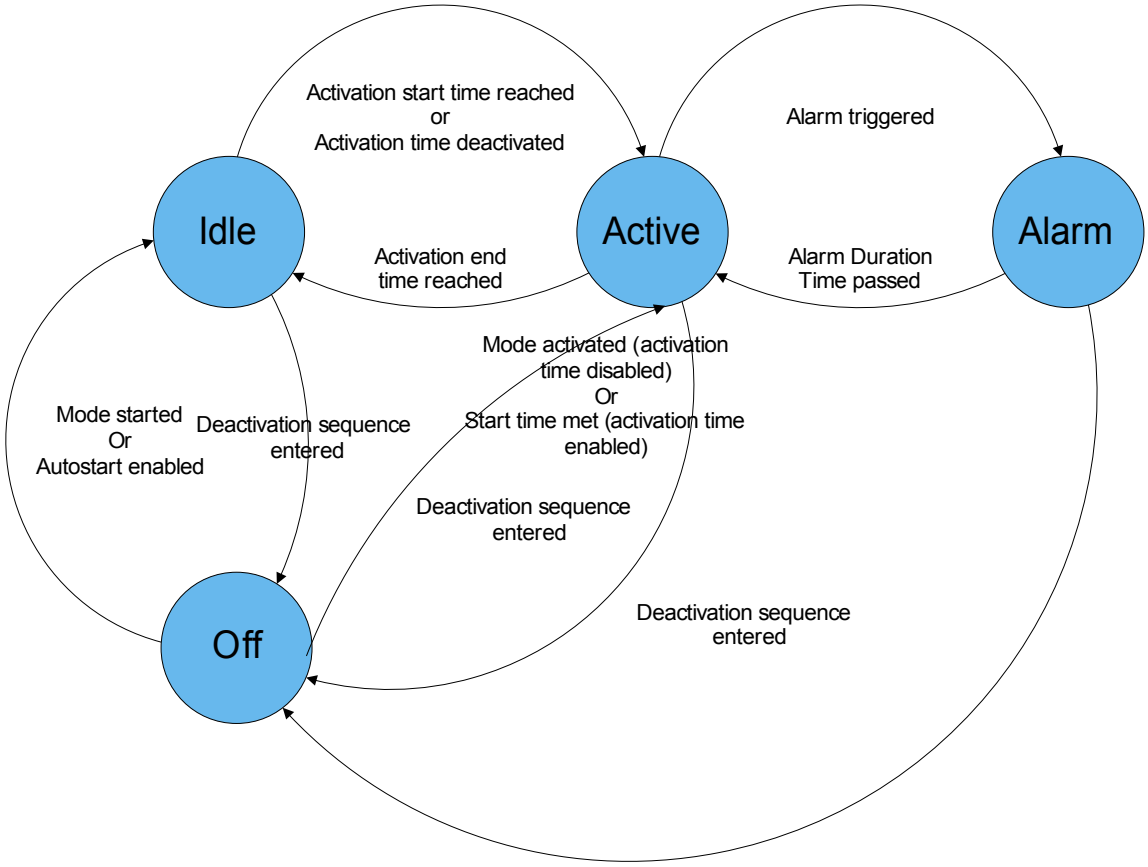


Figure 5-50 Mode states

With the Start option the selected mode of the AyApplication can be started. When a mode is started this takes the control over the display and the user input.
If no alarm trigger is active the mode is not started and a message box is displayed informing about this status.

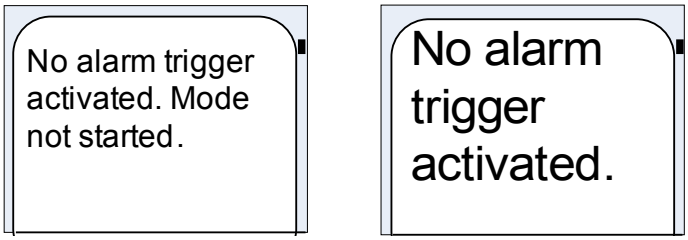


Figure 5-51 No alarm trigger activated message box

If no notifier is activated and the mode is started, first a message box is displayed for 5 seconds and then the mode is started (if possible).

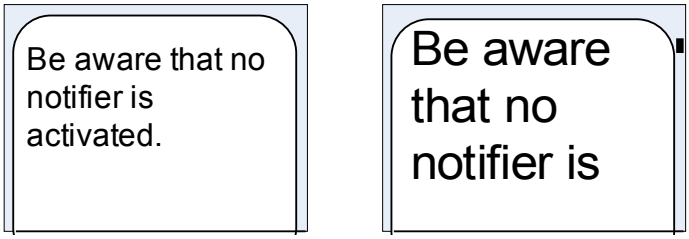


Figure 5-52 No notifier activated message box

After starting a mode or starting the AyTerminal with the PIN of the SIM card disabled and the mode set to auto start, a screen like in Figure 5-53 is shown in following cases:

- if the mode was started without activating the activation time option. In this case the mode is started and also activated.
- if the mode was started and the activation time's active option was checked and the start time was encountered.

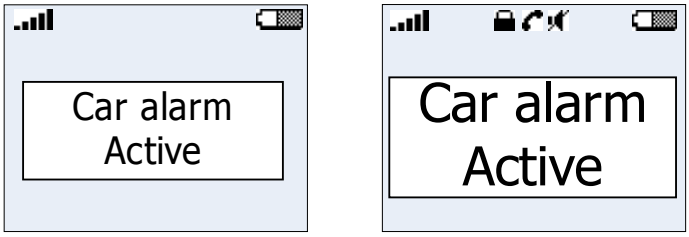


Figure 5-53 Active mode status screen for Car Alarm mode

After starting a mode a screen like in Figure 5-54 is shown in following cases:

- if the mode was started and the activation time's active option was checked and the start time is not encountered.
- if the activation time is active but the end time has been reached.

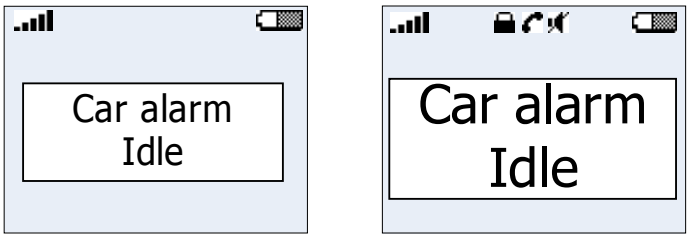


Figure 5-54 Inactive mode status screen for Car Alarm mode

The following data are shown in this screen:

- AyTerminal Status bar
- Mode's name
- Active/Idle status

While a mode is started the green LED will blink.
In these screens only the deactivation code is available.
If an alarm is triggered a message will be displayed informing the user about the triggered alarm (see Figure 5-55). In case that the alarm was triggered because the current value of a sensor exceeded the set threshold the first displayed line contains the mode name and the second line the pair sensor name – sensor value. The sensor name is the name of the sensor for which the value was exceeded and the sensor value is the value of the sensor in the moment when the value was exceeded. With the sensor value the measurement unit is also displayed (% for noise and ego-motion sensors and °C for temperature sensor). If the alarm was triggered but no sensor was involved then the second displayed line is replaced by the text "Alarm!". This is the case of Alarm Clock where the alarm is triggered by a timer and of Voice Call where the alarm is triggered if the defined phone number was dialled. The screen is updated whenever something changes on AyTerminal (e.g call phone established, call phone ended). After alarm duration the mode returns in Active state which is indicated on display.

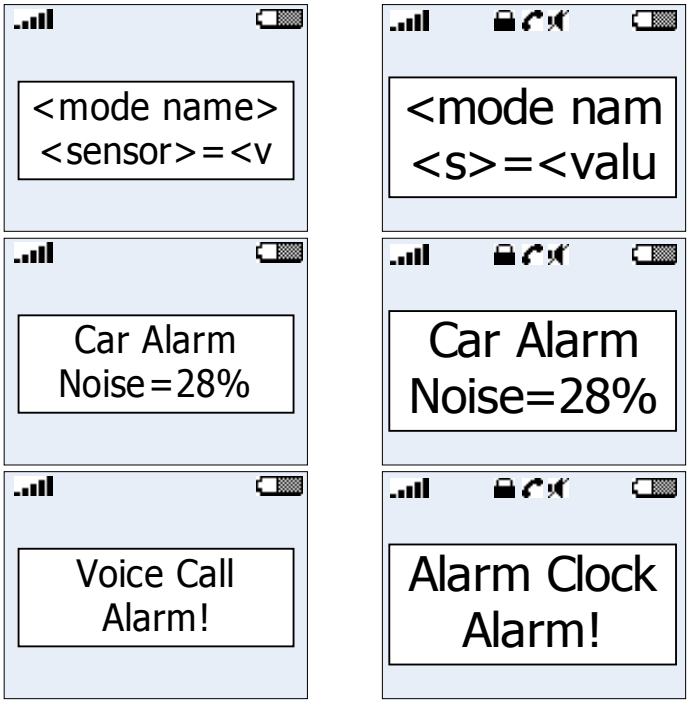


Figure 5-55 Mode active and alarm triggered

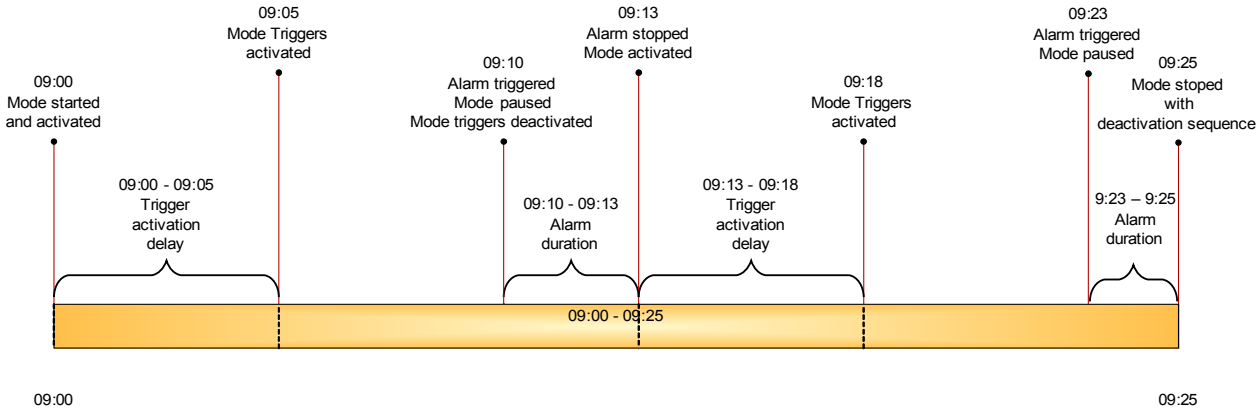


Figure 5-56 Mode active and alarm triggered timeline

5.6Deactivating a mode or a triggered alarm

To stop the triggered alarm the mode has to be deactivated.
For deactivating a mode the deactivation code needs to be introduced, by pressing the buttons that form the deactivation code. After deactivating a started mode the mode menu is displayed. When deactivating the mode all triggers and notifiers are stopped. If mode is started using “autostart”, after entering deactivation code, main menu will be displayed.
For setting the deactivation code see chapter .

5.7Emergency Call

The “Emergency call” menu item enables to make an emergency call.

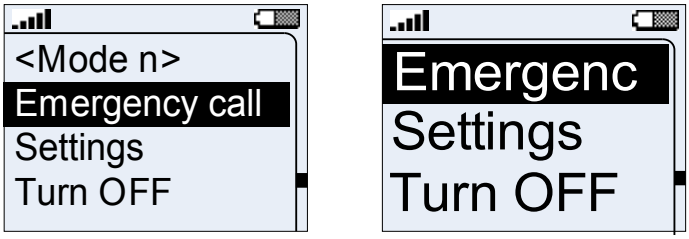


Figure 5-57 Main menu – standard and jumbo mode

5.8Settings

The “Settings” menu provides the possibility to configure general AyTerminal settings via its submenus and menu items.

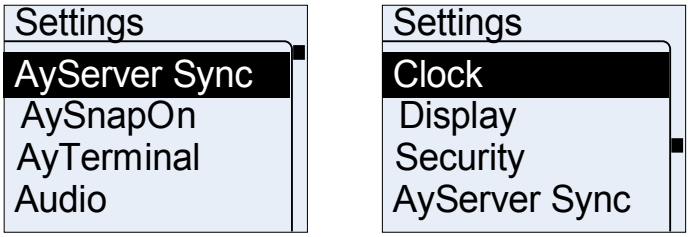


Figure 5-58 Settings menu

5.8.1AyServer Sync

This menu item gives the user the possibility to initiate synchronization with AyServer. While the synchronization with AyServer is in progress on display the following screen will be visible:

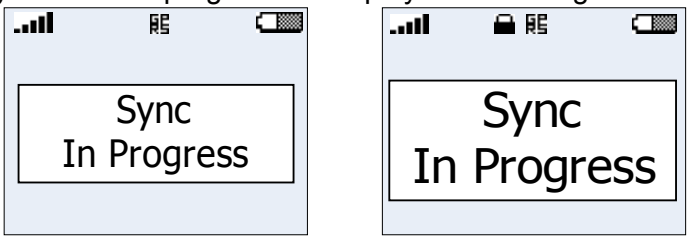


Figure 5-59 Sync in progress

When the synchronization process is finished a message box is displayed informing about the result of the synchronization. In case the synchronization failed the message box with the proper message is displayed until right or left button is pressed. In case of success the message box with the proper message will be displayed for 5 seconds. After 5 seconds the Settings menu is displayed back.

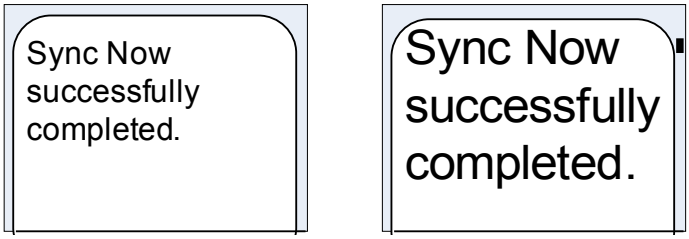


Figure 5-60 Sync Now – message in case of successfully completed synchronization

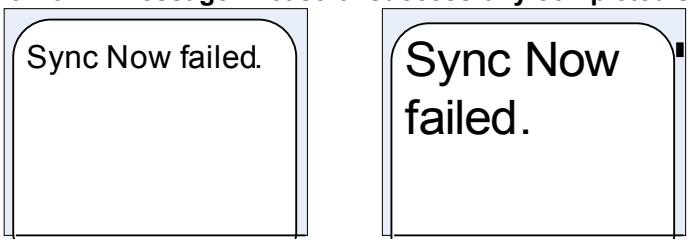


Figure 5-61 Sync Now – message in case synchronization fails

5.8.2 AySnapOn

The “AySnapOn” menu provides the ability to:

- search for new AySnapOns that are connected to the AyTerminal
- view all found AySnapOns

In the list of found AySnapOns it is possible to:

- activate or deactivate each AySnapOn

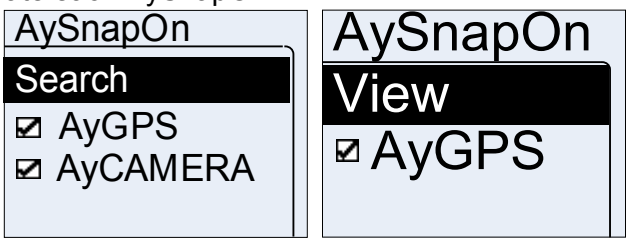


Figure 5-62 AySnapOn menu – standard and jumbo mode

If more than four AySnapOn are found during the search process a message is shown on the display. Additionally the status LED will blink red and a negative acknowledgment is sounded. One AySnapOn must be unplugged. The list of the connected AySnapOns is not available if more than four AySnapOns are connected.

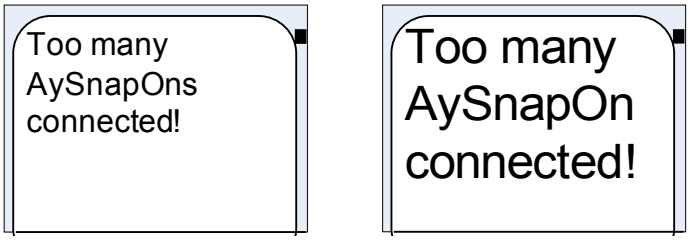


Figure 5-63 AySnapOn warning message – standard and jumbo mode

An AySnapOn can only be activated if the running AyApplication supports this AySnapOn.

It is forbidden to plug or unplug AySnapOn modules to/from AyTerminal while AyTerminal is powered on. It needs to be powered off first.

5.8.3 AyTerminal

This menu provides the common settings for all AyApplications that has impact on the AyApplication itself.

- ”Info” option allows the user to see FW and AyTerminal useful information. See 5.8.3.3.
- “Default settings” option allows user to reset all AyApplication configurable values to default.
- “FW Update” option allows user to update the current FW (available only if user registered to AyServer). See 5.8.3.2.

The currently running AyApplication is marked with a checked radio button. Selecting an unmarked AyApplication in the menu initiates the change of the current running AyApplication. The AyTerminal is restarted with the selected AyApplication. Before restart, a message is shown for five seconds, see Figure 5-66. It can take some time until change of application.

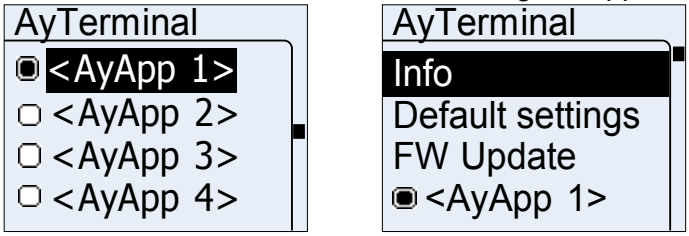


Figure 5-64 AyApplication menu – standard mode

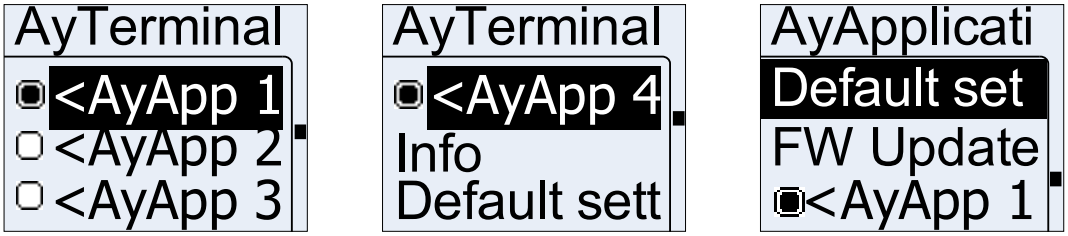


Figure 5-65 AyApplication menu – jumbo mode

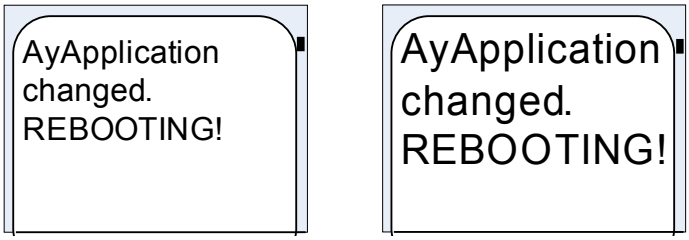


Figure 5-66 Rebooting message box in standard and jumbo mode

5.8.3.1Setting the AyApplication to default settings

Selecting the “Default settings” item triggers setting all settings of the running AyApplication to their defaults. A sequence of message screens is shown like in Figure 5-67. The AyTerminal settings like time and date are not influenced by this action.

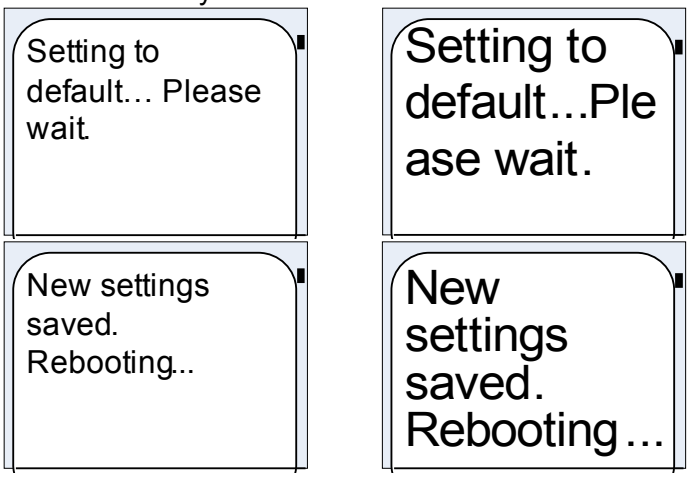


Figure 5-67 AyApplication warning message – standard and jumbo mode

The settings which are influenced by this reset to default are:

Setting	Default value
Application version	Current AyApplication version
All AySnapOns	deactivated
Time Sync	deactivated
AyServer Periodic Polling	deactivated
AyServer Periodic Polling Interval	60s
Nickname	John Doe
Deactivation code	Up, Right, Down, Left
Audio - mute	Deactivated
Audio – Voice Call volume	Maximum (100)
Audio – Button Click volume	Maximum (100)
Audio – Alarm volume	Maximum (100)
Audio – Ring tone volume	Maximum (100)
Audio – selected ring tone	3d in the list
Audio – headset	Deactivated

Selected language	EN
Display – jumbo mode	deactivated

Table 5-7 AyTerminal settings – default values

For AyAlarm mode related settings see **Table 5-5 AyAlarm mode specific settings** and **Table 5-4 AyAlarm – settings available for all modes.**

5.8.3.2 Firmware Update

In the "Firmware" menu the version of the current firmware is displayed. If registered to the AyServer the firmware update can be initiated. The AyTerminal will contact the AyServer and if a newer firmware is found on the AyServer then the AyTerminal informs the user that there is a new version available. The info is more a request for confirmation. To accept or reject the download of the new firmware the right/ left button must be pressed. If the right button is pressed then the new version of the firmware is downloaded on the AyTerminal and a positive acknowledgment. is sounded. During the download a message screen is shown.
Before AyTerminal reboots a notifying message box is shown. If the left button is pressed in confirmation screen then the firmware update is canceled and negative acknowledgment. is sounded.

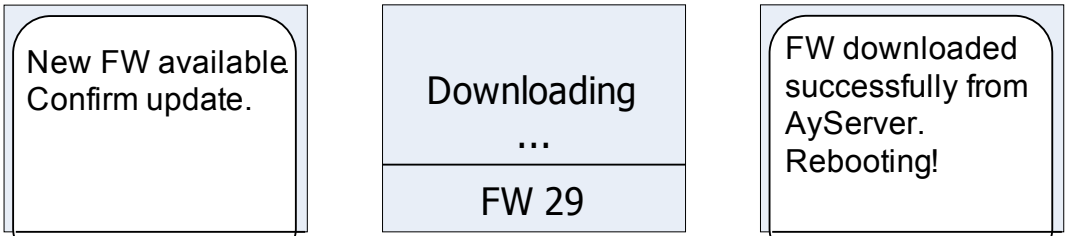


Figure 5-68 Firmware update menu and messages– standard mode

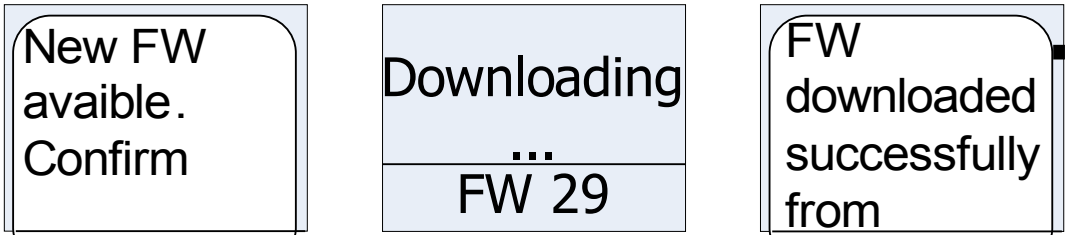


Figure 5-69 Firmware update menu and messages – jumbo mode

In case of error following message box is shown and after enter/ back button is pressed the Firmware menu is displayed.

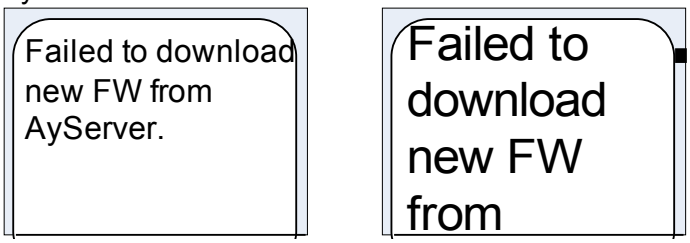


Figure 5-70 Error FW download message

5.8.3.3Info

In the "Info" menu the user can see all the relevant information of the AyTerminal.

- firmware related data like current BootLoader and MainFW
- MSISDN
- IMEI
- SMS Center

- APN
- DNS
- NET username
- NET password
- AyServer URL

This information can not be changed via AyTerminal.

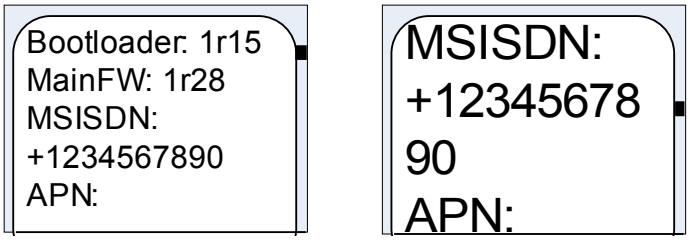


Figure 5-71 Info message – standard and jumbo mode

If the information is not fitting in one screen (one screen has 20 lines in standard and also jumbo mode) then the text is split in more message boxes. Going from one message box to another is possible by pressing the OK button.

5.8.4 Audio

The “Audio” menu provides the user to set the AyTerminal audio settings.
Using the “Headset” item the user activates or deactivates the connected headset.
The user has the possibility to set up the volume for

- alarm siren
- button clicks
- voice calls
- ring tone

or to

- mute all sound feedback

The volume can be defined in 5 steps where the first step always means mute (0%, 20%, 40%, 60%, 80% and 100%). By default volume settings for call, siren and ring tone are set to 100% and for button to 40%.
If the user activates the “Mute all” item, all sound feedback is muted, but the set values are still stored on the AyTerminal.
For ring tones there is a submenu where the user can additionally choose the ring tone. “Ring tone 3” is set by default.

Figure 5-72 Audio menu – standard mode

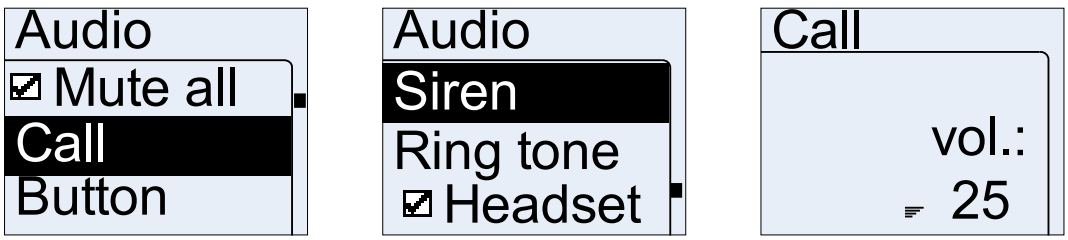


Figure 5-73 Audio menu – jumbo mode

5.8.5 Clock

This menu gives the possibility to:

- see current time and date
- set the time and date manually
- activate/deactivate automatic time synchronization with the AyServer

On the AyTerminal the user has to set the time manually or if registered to the AyServer the time can be automatically synchronized on connection to AyServer. Time synchronization is performed of daily basis and every time if something changed on AyTerminal that need connection to AyServer.
If the user selects the "Set Time/Date" item the "Auto time" item is deactivated automatically.
The time input format is "hh:mm:ss" and the date input format is "DD.MM.YYYY" (European format).

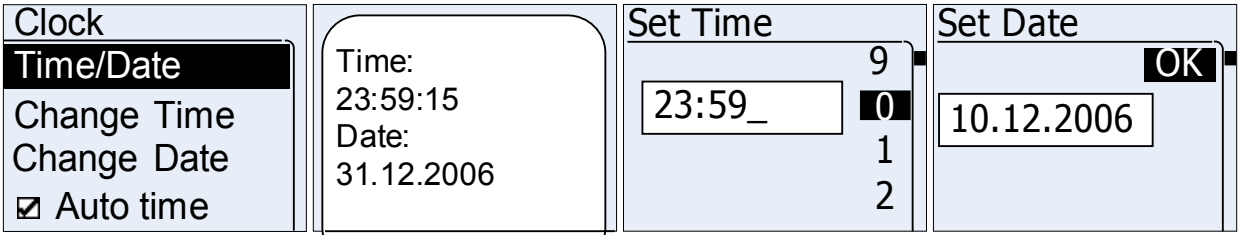


Figure 5-74 Clock menu – normal mode

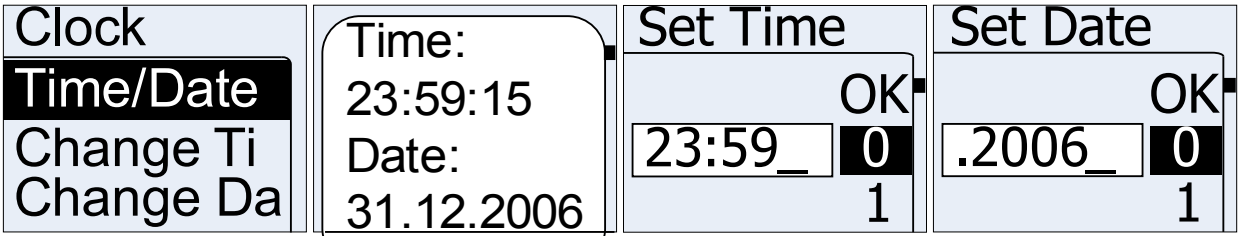


Figure 5-75 Clock menu – jumbo mode

5.8.6 Display

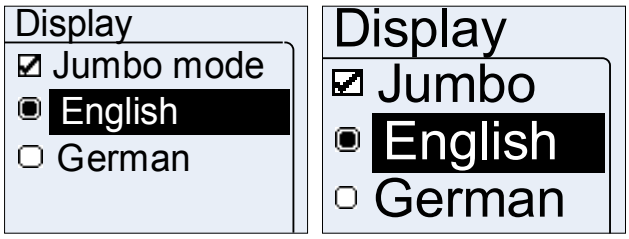


Figure 5-76 Display menu in standard and jumbo mode

The currently selected language can be seen and also changed in this menu. After user selects desired language AyTerminal will show message (Figure 5-77 Language message box) and it will reboot. It is done automatically. The default language is English.

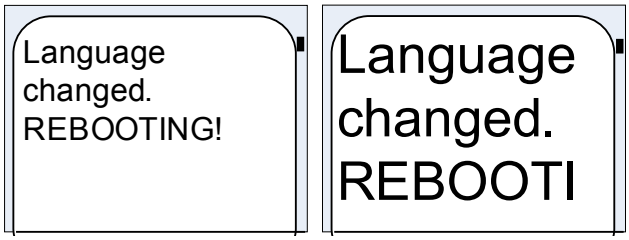


Figure 5-77 Language message box

Using Jumbo mode menu item the user has the possibility to activate or deactivate the jumbo mode of the display

5.8.7 Security

The Security menu contains following items:

- Deactivation code
- PIN control (preceded by a checkbox)
- Change PIN

5.8.7.1 Setting the deactivation code

After the “Deactivation code” setup has been chosen an editor is displayed to enter the new deactivation code. The deactivation code consist of a combination of 4 buttons from the 5 available ones: up, right, down, left, central. After entering the new deactivation code (pressing a sequence of 4 buttons) a message box is displayed informing about the new set deactivation code. The new code can be accepted or rejected using the right or left button.

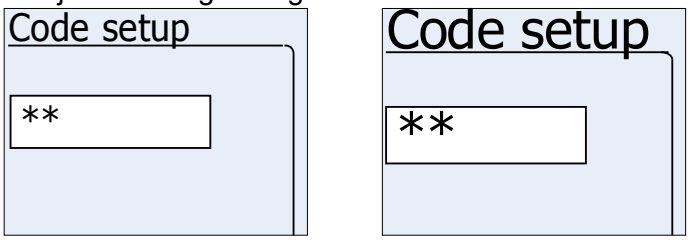


Figure 5-78 Code setup editor (standard and jumbo mode)

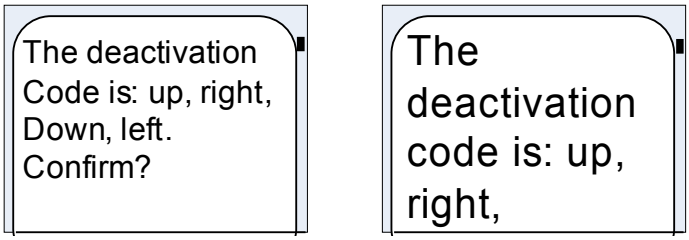


Figure 5-79 Confirmation request

If confirmation is rejected then the new deactivation code is not saved.

5.8.7.2 PIN control

Using this menu item it is possible to activate or deactivate the SIM PIN request on start up. PIN control is activated by default. For activating or deactivating SIM PIN request, the PIN has to be entered in the PIN editor screen first (see Figure 4-12).

5.8.7.3 Change PIN

Using this menu it is possible to change the SIM PIN.
First the old PIN is requested, then the new PIN with re-entering it for security reasons.
According to GSM specifications the PIN can be up to 8 digits long. The PIN must have at least 4 digits.

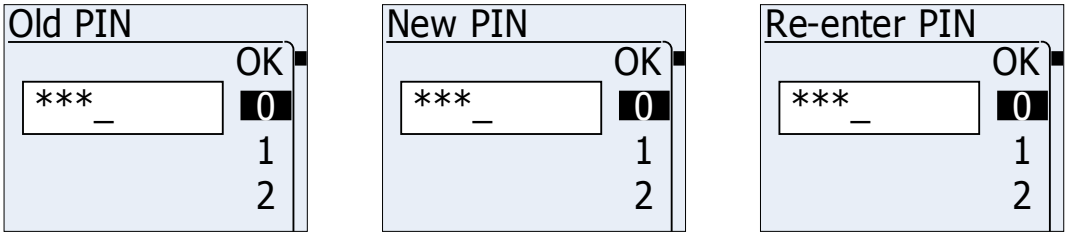


Figure 5-80 Change PIN screens – standard mode

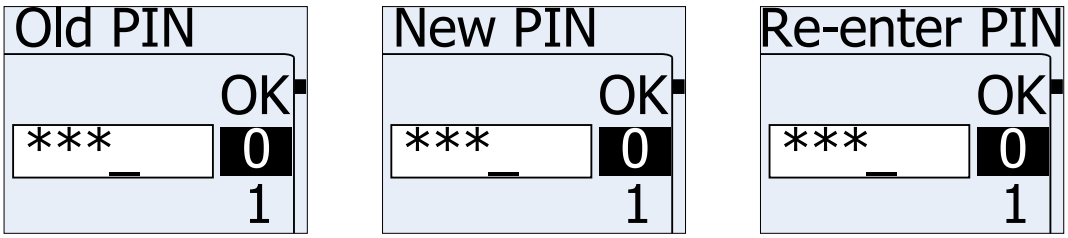


Figure 5-81 Change PIN screens – jumbo mode

If user enters wrong pin, user will receive message about wrong pin (Figure 5-82 Incorrect PIN message). After entering wrong PIN three times user will receive message shown in Figure 5-81.

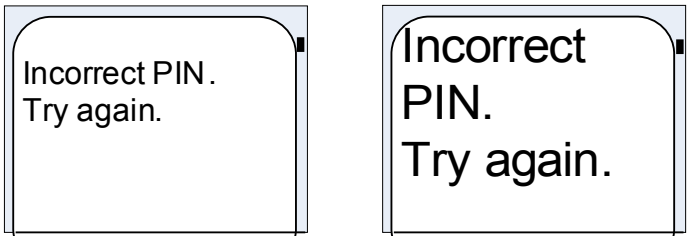


Figure 5-82 Incorrect PIN message

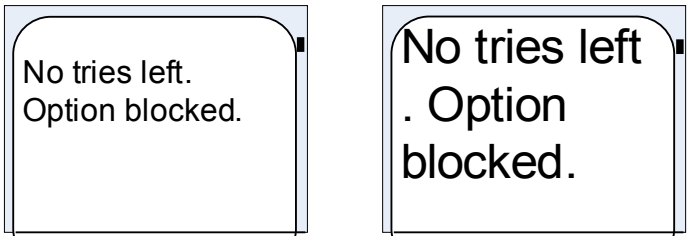


Figure 5-83 Message after entering wrong PIN three times

User then has to restart AyTerminal. On next start up of AyTerminal user will have to enter PUK number.

5.9Turning off the AyTerminal

If a mode is activated and has control over the device then first deactivate the mode. After deactivating the mode by entering the deactivation code, the AyApplication menu will be displayed. As soon as 4th key is entered, deactivation code is completed. After the main menu is displayed , select “Turn Off” item in order to turn off the Ay. Message box will appear asking for turning off confirmation, see Figure 5-84. After pressing accept button new message is shown informing about Ay settings being saved, see Figure 5-85.

NOTE: Do NOT connect charger while TURNING OFF the AyTerminal because the data that is being saved might be corrupted!

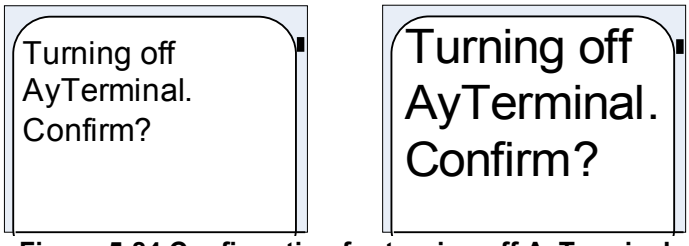


Figure 5-84 Confiramtion for turning off AyTerminal

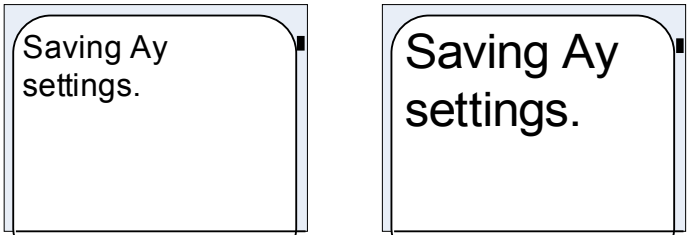


Figure 5-85 Saving AyTerminal settings

After saving the settings, Ay is sending SHUTDOWN notification to AyServer, but only if Ay is registered to AyServer. A message is shown on display informing about Ay intention (see Figure 5-86 Sending SHUTDOWN notification to AyServer).

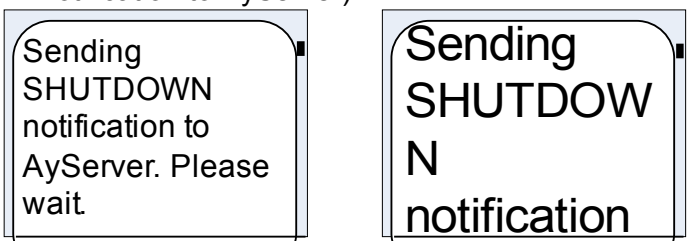


Figure 5-86 Sending SHUTDOWN notification to AyServer

5.10Involved sensors in AyAlarm modes

Mode	Involved sensors
Alarm Clock	-
Baggage Secure	acceleration
Room Monitor	Noise, acceleration
Car Alarm	Temperature, acceleration
Temperature Watchdog	temperature
Voice Call	-

Table 5-8 Involved sensors in AyAlarm's modes

5.11Symbols on AyTerminal

SYMBOL	Description
	Hold-switch ON
	Phone call in progress (Dialing/ Incoming call/ Connection established).
	Mute ALL On
	Signal strength (full, maximum)
	Battery statuses (empty, 20%, 40%, 60%, 80%, full)
	Battery charging
	Charger conected – Batteryy full
	GPRS ON (Connection established with AyServer)
	Signal strength – possible values (no signal, very very low, very low, medium, normal, maximum)

Table 5-9 Symbols of AyTerminal