Programming guide





Tunstall MobilAlarm

D6807002A Version 5.0

All the reassurance you need Tunstall

Contents

Introduction....2
Tools required....2
Network connection SIM card....3
Choice of network and tariff....3
SIM card options....3
Voice mail....3
Missed call text messages....3
Incoming call reject (barring or closed user group)....3
International roaming (barring)....3
Fitting the SIM card and battery....4
MobilAlarm configuration options....5
Call key telephone number....5
Ringer volume....5
Emergency call silent/audible confirmation and alert siren....5
On-demand update of last known position and GPS check....5
Low battery audible reminder....5
Programming the MobilAlarm....6
Example programming messages....8
Valid message reply....8
Rejected message reply....8
Missing parameter reply....8
Emergency location request....9
Record card....9
Replacement parts....9

Introduction

This Programming Guide supplements the information contained in the MobilAlarm User Guide. It describes how to connect with a mobile phone network and how to configure the MobilAlarm ready for use. It is intended to be used by Monitoring Centre technicians responsible for configuring equipment prior to supply to a client-user.

Tools required

A Torx head screw driver (see image below) size T6 is required to open the battery/SIM card compartment. This is available separately as part number GS839.

 Torx head screwdriver

Network connection SIM card

The MobilAlarm is normally supplied “SIM Free”. This means that it does not have a connection agreement with a mobile telephone network provider and you are free to choose your own provider.

When choosing a provider and tariff (call plan), and the network settings/options applied to the line there are a number of points that should be considered.

Choice of network and tariff

Ensure that the chosen GSM Network provides best available coverage in the areas where the MobilAlarm is likely to be used. Remember that areas of weak signal shown on coverage maps (usually available on network operator’s web-site) may not support reliable connections from indoors.

Choose a tariff/call-plan appropriate for the level of call use which is likely to be low in comparison with a normal mobile phone.

Pre-payed Pay-As-You-Go tariffs are **NOT** recommended as there is a danger that calling credit may run out when it is needed most. Additionally, most networks impose time limits after which unused credit expires and the dormant phone number is invalidated.

The network operator may be able to supply bulk quantities of contract SIM cards pre-configured and ready for activation on first use.

SIM card options

The network operator should be able to advise on SIM card settings and how to configure them. Be sure to inform them that the SIM is to be used in a device which supports normal speech but does not have a keypad or display. It may be necessary to fit each SIM card into a normal mobile handset to configure/enable it prior to fitting it into a MobilAlarm. The following are common network features which may often need to be configured.

Voice mail

Voice mail should be disabled as the MobilAlarm cannot advise receipt of messages or access them for replay.

Missed call text messages

Some networks will optionally send a text message to inform the user of a missed caller’s number. This is sometimes operative if voice-mail is not enabled. As the MobilAlarm cannot display text messages this option should be disabled.

Incoming call reject (barring or closed user group)

If the user does not want to receive incoming calls, or it is appropriate to prevent outgoing calls to numbers except those pre-authorised (e.g. the Monitoring Centre alarm number) then this can be achieved through call baring and “closed user group” network services.

International roaming (barring)

It may be appropriate to set a network service bar on international roaming in order to prevent unexpected costs should the MobilAlarm be intentionally or accidentally taken out of the home country.

Fitting the SIM card and battery

Once the SIM is activated and configured with the required network settings, it is fitted into the MobilAlarm as follows:

1) Remove securing screw (if fitted) from back cover using a Torx head screwdriver



2) Remove back cover by sliding downwards



3) Carefully lift battery pack out of case (if fitted)

4) If necessary disconnect battery connector from socket by grasping both wires and gently pulling out

5) Ensure that SIM card retention clip is in down position – slide down if necessary (note that the clip cannot be slid down unless the battery is disconnected)



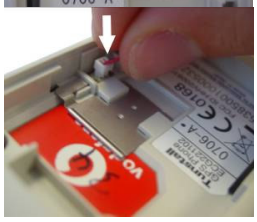
6) Position SIM card



7) Slide retention clip upwards to close



8) Connect battery pack (it will only fit one way with the red wire towards the top) ensuring that the connector is pushed fully into the socket



9) Place battery into case and arrange wire as shown

10) Replace back cover by locating and then sliding upwards to lock into closed position

11) Fit securing screw



MobilAlarm configuration options

After fitting the actived network SIM card and battery, the MobilAlarm must be programmed with an identification number (allocated by the Monitoring Centre), and the telephone number of the Monitoring Centre's emergency line configured to receive MobilAlarm calls. It can optionally be programmed with a non-emergency number.

The MobilAlarm also allows for a number of settings which enable/disable optional features.

The following sections describe the optional features and the procedure for programming the chosen settings into the MobilAlarm is described afterwards.

Call key telephone number

If it is desired to provide the user with the ability to call a non-emergency alternative telephone number (perhaps a service/support desk at the Monitoring Centre, or a colleague/carer/family member) then this can be programmed into the MobilAlarm. However, many provider organisations are directly responsible for the call charges incurred by a MobilAlarm user and thus prefer that it is used only to make emergency calls.

Ringer volume

If the MobilAlarm receives an incoming call then it will make a ringing sound. The volume of this sound can be set for high, medium or low.

Emergency call silent/audible confirmation and alert siren

When an emergency call is activated, the MobilAlarm normally generates a sequence of tones in order to provide reassurance to the user that the call is active and the communication sequence with the Monitoring Centre is progressing. However in some circumstances it may be desirable for the MobilAlarm to remain silent and unobtrusive during this initial period. A further setting can allow the MobilAlarm to generate a siren sound and thus attract attention when an alarm is activated. The Siren stops once the MobilAlarm has connected to the Monitoring Centre.

On-demand update of last known position and GPS check

Whilst it is able to receive signals from GPS satellites, the MobilAlarm regularly updates a memorised "last known position" in case an alarm has to be raised from a position where it is not able to determine a current location. The automatic updating is normally carried out at 12 minute intervals when satellite signals are available. If the signal is lost (e.g. the user goes into a building) then checks for the signal becoming available again are made more frequently (between 1 and 2 minutes).

This technique is designed to optimise the MobilAlarm's battery and ensure that the MobilAlarm has a sufficient operation time.

For most users, a location reported as a result of the above approach will be sufficiently close to the actual location from which an alarm is raised for help to quickly find them. However, there are certain types of user who need to be confident that satellite coverage is available and that a position is recorded, perhaps just before entering a risk environment. This is available through enabling the on-demand update option. If this function might be confusing for a user or is not required then it should be left disabled.

Low battery audible reminder

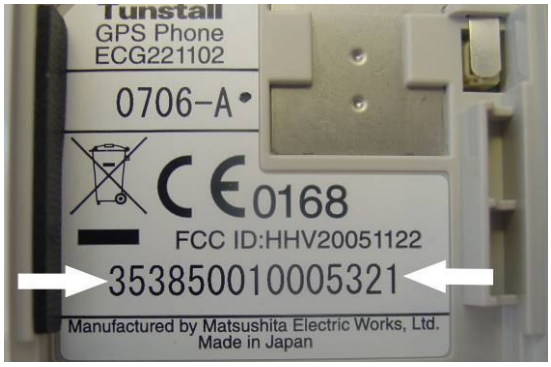
If a user considers the audible low battery alert is too intrusive then it can be disabled leaving only a visual alert. A Low Battery call to the Monitoring Centre will still be made if the battery becomes critically low.

Programming the MobilAlarm

The MobilAlarm is configured by SMS (Text) Message which can be sent from any mobile handset. Although each MobilAlarm would normally be configured prior to supply to the client, it is also possible to remotely change its settings if this becomes necessary.

In order to program a MobilAlarm, it is essential to know the telephone number that is associated with its SIM card, and the MobilAlarm's International Mobile Equipment Identity (IMEI) number. The need to know the correct combination of these two numbers ensures that only authorised people can remotely program the MobilAlarm's settings.

- The telephone number will have been notified to you by the supplier of the network SIM card, or alternatively place the SIM card in a normal handset and make a call to another handset in order to show its caller ID.
- It is recommended to make a note of this number in the space provided in the User Guide.
- The IMEI number is located on the label inside the MobilAlarm's battery compartment (behind the battery).



The desired settings are programmed into the MobilAlarm using an SMS (Text) sent to the MobilAlarm's telephone number. The message must contain information as shown in the following table and examples.

Meaning	Example	Description and Possible Settings
"Command"	CF;	This tells the MobilAlarm that Configuration data follows.
IMEI	353850010000926;	The number entered must be identical to the IMEI printed on the label in the MobilAlarm's battery compartment.
ID	123456;	The number entered here is the unit identification number assigned by the Monitoring Centre. The MobilAlarm will accept up to 16 digits though most monitoring centres will only require up to 12.
Emergency 1	+441977123456,	This is the first Monitoring Centre telephone number that will be dialled. The international prefix can be used or the number entered in national format (eg 01977123456). This number must be the number of the line(s) at the Monitoring Centre able to accept MobilAlarm calls. If further numbers are used (eg other Monitoring Centres) then end the number with "," otherwise end with ";"
Emergency 2 Optional	+441977123457,	Optional – do not enter any characters if not required (last emergency number must be followed by ";"). Note that each emergency number must be different.
Emergency 3 Optional	+441977123458,	Optional (last emergency number must be followed by ";").
Emergency 4 Optional	+441977123459;	Optional (last emergency number must be followed by ";")
Call	+441234123450;	The number entered here is the telephone number dialled by the green call key. If this function is not required then just enter ";" with no digits. A telephone number entered can be international or national format.
Ringer Volume	MD;	This sets the ringer volume. Enter "LO" for low volume, "MD" for middle, or "HI" for high volume.
Reasurance Tones	1;	This controls the sounds made when an emergency call is activated. "0" sets silent operation, "1" gives bleeps indicating progress, "2" makes a loud siren sound to attract attention. (Default setting 1).
On-Demand Position check	ON;	"ON" enables on-demand update of the memorized last known position and check of GPS coverage, "OFF" disables the capability. (Default setting OFF).
Auto-Interval	12;	The value "12" should always be used unless otherwise advised by your supplier. Changing this value could seriously reduce the operating duration between charges. (Default setting 12).
Battery warning tones	ON;	"ON" enables the tones prompting re-charge. "OFF" disables the audible tones. (Default setting OFF).

NOTE: That use of international "+" format for telephone numbers ensures that the unit will operate when roaming. Although this may not be required it is still advisable to use international format to avoid ambiguity. Calls dialled using international format to locations in the home country do not cost any more than those dialled using the national format.

Each entry (except where more than one emergency number is being used) must be ended with ";".

Example programming messages

The following shows some example entries;

CF;353850010000926;123456;+441977123451;;LO;1;ON;12;ON;
This contains one emergency number (using international format) and no call number.

CF;353850010000926;123456;01977123451,01977123452;01234123456;MD;0;ON;12;OFF;
This contains two emergency numbers and a call number (using national format), no reassurance or low battery tones.

Valid message reply

After a valid message has been sent to the MobilAlarm, the MobilAlarm will send a reply text message indicating success. This will be a copy of the message with the initial “CF” replaced by “OK”. For example:

OK;353850010000926;123456;+441977123451;;LO;1;ON;12;ON;

Rejected message reply

If the message is rejected, then the MobilAlarm will respond with an error message prefixed “ER;”. The rejected data will be shown whilst accepted fields will be left blank (just data separators ;/, being shown). For example:

Sent:

CF;353850010000926;123456;01977123451,0197712c452;01234123456;MD;0;ON;12;OFF;

Reply:

ER;CF;;;,0197712c452;;;;;;;

Indicating an error (invalid character “c”) in the second emergency number.

Missing parameter reply

If a required parameter is missing from the Configuration (CF) message, then the MobilAlarm will respond with a copy of the rejected message but prefixed with “MS;”.

Emergency location request

In exceptional circumstances, it is possible to remotely command a MobilAlarm unit to make an alarm call to the Monitoring Centre and this will then enable its location to be determined. This function is performed by sending a text message with the command “LC;” together with the unit’s assigned ID as shown in the example below.

LC;123456;

NOTE: This function can only be carried out by persons who have access to the correct combination of SIM card telephone number and assigned unit ID.

Record card

It is very important to record the IMEI, GSM network telephone number, and Monitoring Centre Identification Number for each unit. Without this information it will not be possible to remotely re-configure the MobilAlarm. The IMEI number can be recorded as a Note within the Monitoring Centre’s database record.

Replacement parts

The following items may be ordered from your supplier

Replacement Battery:	D6806003A
Replacement Charging Base	D6802001A
Replacement UK Transformer:	D6806004A
Replacement Euro Transformer:	D6706005A

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www.tunstall.co.uk

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