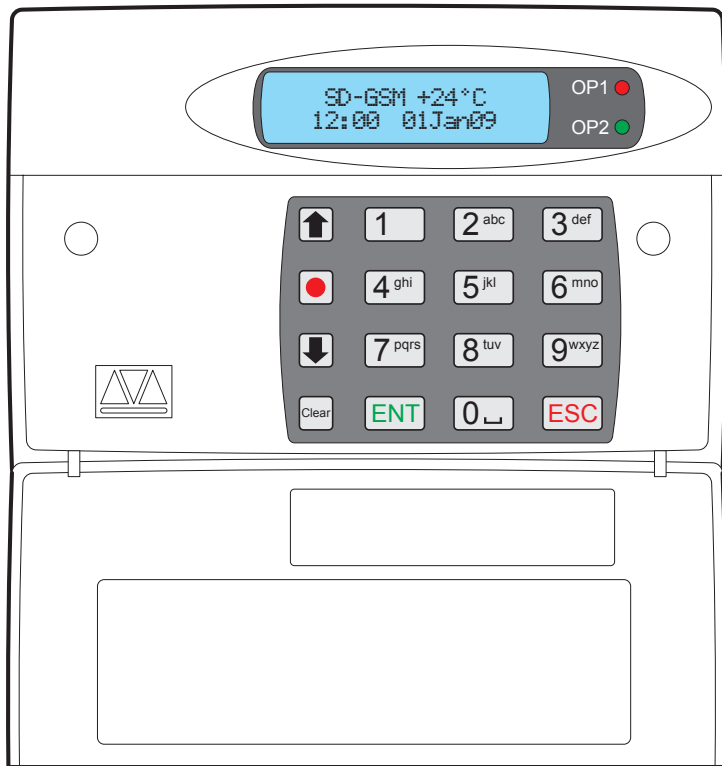


SD-GSM Speech Dialler



Installation Guide

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Printed and published in the U.K.

Introduction

The SD-GSM Speech Dialler provides a means of communicating information over the telephone network. You can either connect the SD-GSM to an alarm control panel (taking advantage of its power supply and battery backup) or use the SD-GSM in a standalone role.

This Guide shows you how to physically install the SD-GSM, and register the unit with a network provider. For details of programming the SD-GSM please read the *SD-GSM Programming and Operation Guide*, available at www.coopersecurity.co.uk.

General

The SD-GSM is designed to connect to an intruder alarm control panel or similar.

The SD-GSM requires a power input (from an alarm control panel or separate power supply) of between 12V and 28V, with a supply capability of 200mA or greater.

The SD-GSM has a built-in GSM module that operates with the mobile telephone network. The unit is not locked to any mobile phone provider, and can accept normal SIM cards.

Specifications

Supply voltage:

12 - 28VDC

Current consumption (@12VDC):

50mA (Standby), 170mA (Active)

Trigger Inputs:

Eight: positive/negative applied or positive/negative removed (5 - 24VDC)

Outputs:

Four open collector switched-ve @100mA

Telecommunications Approval:

CTR21

Dimensions:

140mm x 115mm x 30mm

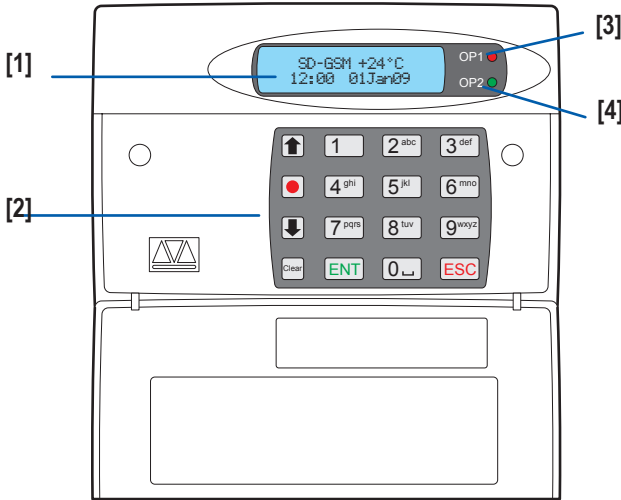
Weight:

360g (approximately)

Operating environment:

-10°C to +55°C

Keys and displays

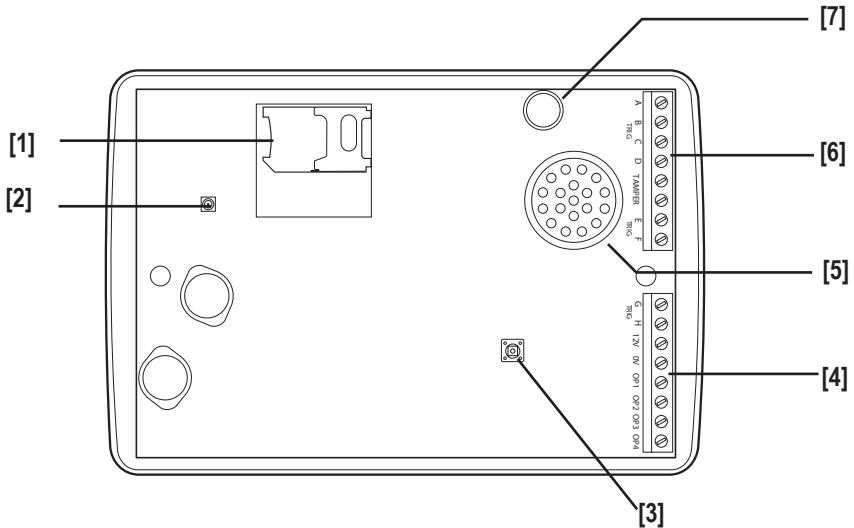


- [1]** Two-line backlit LCD display
- [2]** Keypad
- [3]** Red indicator shows the status of Output 1
- [4]** Green indicator shows the status of Output 2

Keypad function keys

- Scroll up
- Record / special character key
- Scroll down
- Clear display
- Enter / Play
- Escape

PCB connectors and switches



- [1]** SIM card holder
- [2]** Antenna connector
- [3]** Back tamper switch
- [4]** Trigger inputs G-H, power & outputs
- [5]** Sounder/loudspeaker
- [6]** Trigger inputs A-F & tamper wiring
- [7]** Microphone

Control panel connections

Before making any connection to the SD-GSM isolate ALL power from the control panel (mains and battery). **Do not continue if there is power still present on the control panel.**

+12V & 0V

Connect these terminals to the 12V auxiliary power supply of the alarm control panel or to a stand-alone power supply, if necessary.

Trigger inputs (A to H)

Connect these terminals to the relevant outputs on the alarm control panel. When an alarm panel triggers an input, the SD-GSM initiates the calling sequence and delivers the relevant speech and/or text message. The diagrams (right) show the various wiring options for the trigger inputs.

Note: All inputs must use the same trigger input polarity. To chose polarity select System Options > Trigger Polarity.

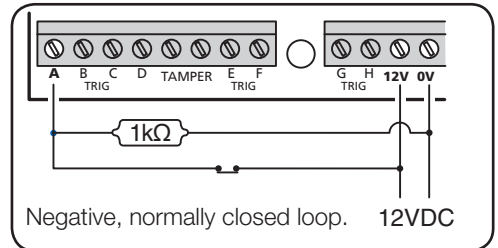
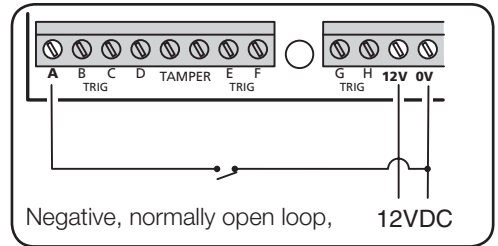
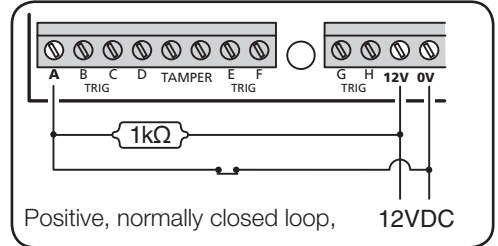
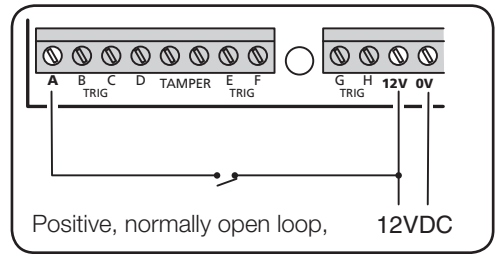
Tamper

These terminals provide tamper protection for the SD-GSM and should be connected to the auxiliary tamper circuit on the alarm control panel.

OP1 - OP4

Four programmable switched negative

@100mA outputs.



Installation

Before installing the SD-GSM, please consider the type of network account and the physical location of the unit and its antenna.

Using Pay As You Go Accounts

Your SD-GSM may not send calls very frequently. If you decide to use a Pay As You Go account, then check with the provider how they deal with accounts that are quiet for several weeks or months. (Some providers close down accounts that do not make any calls within a set period.) If necessary you can program the unit to make a test call at fixed periods.

In addition, the SD-GSM can also forward incoming text messages it receives warning of low credit.

See the SD-GSM Programming and Operation Guide for details.

Siting the SD-GSM and antenna

Before installing the unit you must decide on a suitable location.

The SD-GSM itself should be in a place that is convenient for the end user as well as any wiring. In addition you must site the antenna so that it can receive a good signal from the phone network. Note that the antenna lead is 3m long

Checking network signal strength

There are three ways to check the network signal strength at your installation:

1. You can use your mobile phone, provided that it is registered with the same network as the SIM that you intend to fit to the SD-GSM. If your phone reports at least three bars of signal at the site of the SD-GSM antenna then the SD-GSM should be able to work on that network.

NOTE: When testing the signal strength you must hold your phone in the exact location of the SD-GSM antenna.

If you decide that a location has a good signal, then you must fit the centre rib of the SD-GSM antenna within 20mm of the spot occupied by your phone. (The signal wavelength is so short, that moving 80mm can change the signal strength markedly. This may not matter with a strong signal, but with a weak signal it could mean that the SD-GSM will not register.)

2. If your phone does not work on the same network as the SIM you intend to install in the SD-GSM, then, provided your phone is not locked, you can put the SD-GSM SIM in your phone, and test for network signal strength as described in step 1. Ensure that you can make a call from the chosen position, it is not enough to rely on the signal strength indication.

Once you have completed testing you must remember to shut down your phone in the recommended manner before extracting the SD-GSM SIM. If you remove power abruptly (for example by taking the phone battery out) the SIM card may not have time to de-register from the network, and some networks may lock out the SIM for several hours.

Note: Do not lock the SIM card with a PIN (the SD-GSM will not let you key in a PIN for the card).

3. Use the SD-GSM. You can temporarily fit the SIM card and antenna to the GSM, fit the GSM module to the SD-GSM, and power the SD-GSM from a 12VDC battery (see opposite page).

You can then register the SIM card (see page 9). However, you should be aware that unless the SIM is registered, the SD-GSM will report the strength of the strongest network signal. *This may be an emergency network.* (In the UK, all networks must provide access to any mobile phone for emergency calls.) Check that the SD-GSM is registered before checking

the signal strength.

Dealing with poor signal strength

If the signal strength is poor, either:

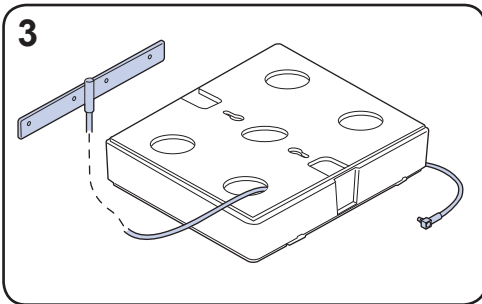
Find a better antenna position.

Change the network provider.

Fitting the SD-GSM

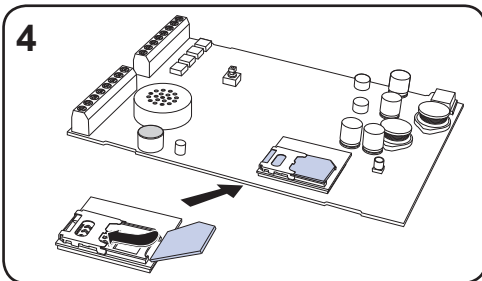
Note: Do not fit the SD-GSM OR its antenna until you have confirmed that there is adequate network signal strength.

1. Separate the cover assembly from the base by using a screwdriver to carefully push two of the retaining clips (top or bottom) inwards from the base indent.
2. Remove the cover assembly and place it in a safe place protected from dust.
3. Hold the base in position (keyhole to the top) and mark the three securing



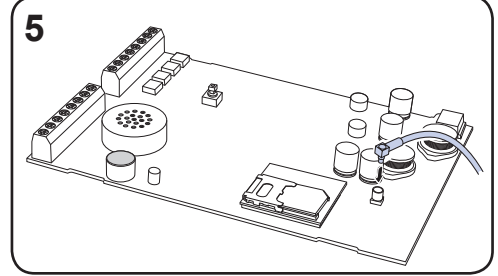
holes. Remove the base then drill and plug the holes.

3. Pass all cables into the base, **including the antenna lead**, through the cable entries and then secure the base to wall,



taking care not to crush the antenna lead.

Fitting the SIM card



4. Fit the SIM card into the SIM holder as shown here. Double check that you have fitted the SIM card in the correct orientation.
5. Connect the antenna to the antenna input socket.
7. Using the supplied surface wipe, clean the area onto which you intend to stick the antenna. Remove the backing paper on the glued side of the antenna. Fix the antenna onto the cleaned surface. *Note: The adhesive on the antenna is fast acting. You will not be able to reposition the antenna once you have put it in place.*
8. Connect power, input and output wiring (see page 5).
9. Reattach the SD-GSM cover assembly onto the base and re-fit the two screws holding the case together.

Commissioning

When beginning a new installation, it is advisable to prompt the SD-GSM unit to make a factory reset in order to ensure that any existing settings are removed.

To prompt a factory reset

1. Disconnect power from the unit.
2. Press and hold **[9^{wxyz}]** and reconnect the power to the speech dialler. The SD-GSM will display the factory-reset menu:

```
Factory Reset?  
[ENT] or [ESC]
```

At this point:

- Press **[ENT]** to revert to factory settings and show the **Change Language** screen:

```
Change Language?  
[ENT] or [ESC]
```

- Press **[ESC]** to keep the default language (English). The display will change to standby mode:

```
SD-GSM +29°C  
12:00 01Jan09
```

To change the display language

1. Following a factory reset, press **[ENT]** to display:

```
Change Language?  
[ENT] or [ESC]
```

2. Press **[ENT]** to display:

```
↑↓ ENT to Select  
English
```

3. Use the **[↑]** or **[↓]** scroll keys to select the language you want to use.
4. Press **[ENT]** to select. The SD-GSM displays the selected language, and enters standby mode, showing the temperature, time and date, for example:

```
SD-GSM +29°C  
12:00 01Jan09
```

The unit is now ready for programming and testing.

Entering the programming menu

1. From standby, enter the user code (default 1234). When you enter the correct code, the bottom line of the display shows the first item from a menu of ten programming options:

```
↑↓ ENT to Select  
Contact Details
```

To scroll up and down through the menu press the scroll keys (**[↑]** or **[↓]**). To jump directly to an option press the relevant hot key. For example, to display the log option press **[9^{wxyz}]**.

When using the programming menu, the SD-GSM's trigger inputs are disabled and therefore the unit will not call out in the event of an alarm.

Note: For correct operation you must leave programming as described next.

Leaving the programming menu

1. From within the programming menu, press **[ESC]** repeatedly until the display shows:

```
Press [ENT]  
To Leave Menus
```

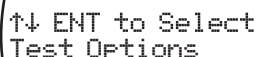
2. Press **[ENT]** to leave the programming menu and return to standby. If you wish to remain within the programming menu, press **[ESC]**.

After the SD-GSM has been programmed and tested, secure the front cover with the screws and screw caps provided.

To register a SIM card

Once you have fitted the GSM module and its SIM card, you must register the SIM card with the service provider. To do this you must make a telephone call from the SD-GSM control unit via the newly installed GSM module.

1. Apply power to the SD-GSM unit.
2. From standby, enter the user code, then use the scroll keys (↑ or ↓) or (0) to display the **Test Options** menu:



```
↑↓ ENT to Select
Test Options
```

Press (ENT) to select. The screen will show the first option: **Test Messages**.

3. Press (↓) or press (5) to show: **GSM Phone Utils**.

4. Press (ENT) to select. The screen will show the first option: **Make Call**.

5. Use the scroll keys (↑ or ↓) and then (ENT), to select the following options:

Make Call Allows you to enter a number and make a call via the GSM link. The SD-GSM will act like a hands free mobile phone.

Signal Strength If the level is low you may need to reposition the control unit, or seek another service provider.

GSM Number (This may not appear if you are using Vodafone as a service provider.) Note this number down so that you can supply it when registering your SIM card.

IMEI Number You should note this number down as you will need to provide it when you register your SIM card with certain service providers.

6. Select the **Make Call** option.
7. Dial the appropriate telephone number for registering the SIM card as shown in the instruction leaflets for the card.

Note that the SD-GSM cannot support the text message response service calls using the * and # keys. You must call the service provider manually and either register with a human operator, or navigate an automated answering service. Once the phone call is established you can use the * and # keys as you would on a normal phone.

The exact details of registering your SIM card differ for each provider.

02

Note that 02 print the SIM serial number and the GSM telephone number on the packing for the SIM card.

To register an 02 SIM dial 248 and follow the instructions given by the automatic answering service.

T-Mobile

T-Mobile print the GSM telephone number, PIN number and PUK (unlock number) on the sheet carrying the SIM card and top up card.

To register a T-Mobile SIM dial 150 and follow the instructions given by the automatic answering service.

If you have several mobile phones fix the sticky label provided showing the GSM number to the top up card.

Orange

Make sure you have the GSM module's IMEI number to hand. You will also need the SIM card serial number which is printed on the SIM card.

You will need to provide a password and the four digit code to identify yourself in the future. Choose them before making the call and write them down in the booklet.

To register an Orange SIM dial 0800 079 0006. A human operator will reply.

While registering your SIM, the operator will provide you with your GSM number. Make sure you note this number on the top up card.

Vodafone

To register a Vodafone SIM dial 2345 and follow the instructions given by the automatic answering service. During the instructions you will be given your GSM number. Make sure that you note this number down on the back of the top up card.

Using top up cards

Various service providers supply top up cards with their SIMs. Part of the registration procedure is to link the top up card with the SIM. The cards contain just enough credit to allow you to make the registration call. Once you have finished this process you will need to supply more credit to the top up card. You should do this immediately.

While registering, make sure that you write the phone number of the GSM module down on the top up card.

The table below provides spaces for you record the relevant information about your GSM installation.

IMEI No.

SIM Card Serial No.

GSM No.

Top Up Card No.

Programming menu options list

(Please see www.coopersecurity.co.uk for the *SD-GSM Programming Guide*.)

Contact Details

- Contact 01 Name
- ^{abc} Contact 02 Name
- ...
- ^{0..} Contact 10 Name

Messages

- Voice Message**
 - Voice Alarm A
 - ...
 - ^{tuv} Voice Alarm H
 - ^{wxyz} Voice Restore A
 - ^{0..} Voice Restore B
 - ...
 - Voice Restore H
 - Voice Site

Text Message

- Text Alarm A
- ...
- ^{tuv} Text Alarm H
- ^{wxyz} Text Restore A
- ...
- Text Restore H
- Text Site

Inbox

- View Messages
- ^{abc} Delete Inbox

System Options

Trigger Polarity

- Negative
- ^{abc} Positive

Remote Options

- Remote Access
- ^{abc} Rings to Answer

Display Options

- Flash on Message
- ^{abc} Beep on Message
- ^{def} Temp Display

Alarm Levels

- Temperature High
- ^{abc} Temperature Low
- ^{def} Supply Low
- ^{ghi} Signal Low

Record Options

- Long Play
- ^{abc} Auto Record

Report Options

- Auto Reporting
- ^{abc} Report Time
 - Time
 - Day
 - Interval

Change Language?

- English
- Francais
- Deutsch
- Italiano
- Nederlands

Access Codes

- Edit User Code
- ^{abc} Edit Remote Code

Ack & Abort

- Abort Options
 - None
 - Passcode Only
 - Code or Restore
 - Restore Only
- ^{abc} Clear by Options
 - Anyone
 - No One

Outputs

- Output 1
 - OFF
 - Message Waiting
 - Remote Access
 - Temperature High
 - Temperature Low
 - Listen Active
 - Speech Active
 - GSM In Use
 - Call Active
 - Call Successful
 - Call Failed
 - Remote Control 1
 - Remote Control 2
 - Remote Control 3
 - Remote Control 4
 - Supply Volts Low
 - GSM Signal Low

Output 2 - *as for Output 1*
Output 3 - *as for Output 1*
Output 4 - *as for Output 1*

0 Test Options

7 Call Routing

- 1** Trigger Alarm
 - Route A Alarm To
 - Route B Alarm To
 - ...
 - Route H Alarm To
- 2** Trigger Restore
 - Route A Restore To
 - Route B Restore To
 - ...
 - Route H Restore To
- 3** Auto Report
 - Route Auto Rep. To
- 4** Text Forward
 - Route Text Forward To

8 Date & Time

Enter New Date
Enter New Time

9 View Log

(**↑** for newer, **↓** for older)

1 Test Messages

Send Alarm A To

...
Send Alarm H To
Send Restore A To

...
Send Restore H To

2 Test Outputs

(*press 1 to 4 to activate outputs*)

3 Test Triggers

(*activate each input in turn*)

4 Test Supply

5 GSM Phone Utils

1 Make Call

2 Signal

Strength

3 GSM Number

4 IMEI Number

5 IMSI Number

6 Module Type

7 Call Provider

6 Software Version

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Part Number 12036557

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This product complies with the requirements of European Directive: **1995/5/EC** (Radio & Telecommunications Terminal Equipment Directive). For more information and declarations of conformity please consult

www.coopersecurity.co.uk

