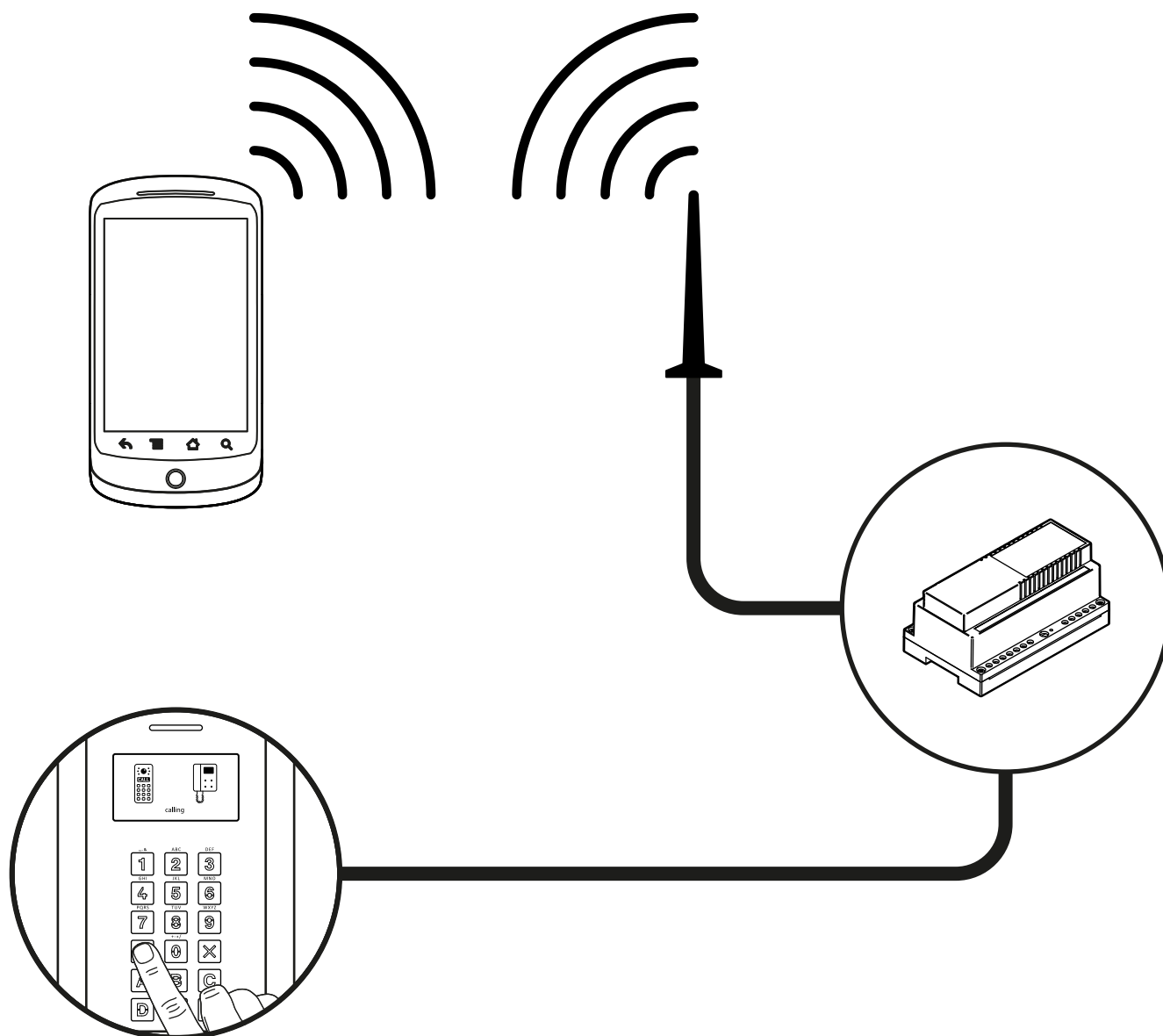


# VX2200 GSM MODULE

GSM Interface Module for the VX2200 Digital System

## ART. 2270



## Technical Manual



# Declaration of Conformity

## EU RoHS DECLARATION OF CONFORMITY

Telit Communications certifies that the UL865-EUR (Dual Band 2G EGSM900/DCS1800 and Dual Band 3G FDD I/FDD VIII Wireless Module) is in compliance with the essential requirements and other relevant provisions of European Directive 1999/5/EC (R&TTE). The conformity with the essential requirements of the Directive 1999/5/EC has been demonstrated against the following harmonized standards:

Article of Directive 1999/5/EC	Harmonized Standard Reference
Health & Safety (R&TTE art. 3.1a)	EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC2011 EN 62311:2008
EMC (R&TTE art. 3.1b)	EN 301 489-1 V1.9.2 EN 301 489-7 V1.3.1 EN 301 489-24 V1.5.1
RF Spectrum use (R&TTE art. 3.2)	EN 301 511 V9.02 EN 301 908-1 V5.2.1 EN 301 908-2 V5.2.1



### WARNING!

To comply with FCC RF exposure requirements, a separation distance of 20cm (7.87") or more must be maintained between the antenna of this product and all persons.

Separate FCC approval for this product is not required as it will be classed as a fixed installation.

**THIS PRODUCT IS NOT DESIGNED TO BE USED AS AN EMERGENCY CALL POINT.**

## DECLARATION OF RESPONSIBILITY

This technical manual has been written and revised carefully. The guidance and the descriptions which are included in it are in reference to VIDEX parts and are correct at the time of print. However, subsequent VIDEX parts and technical manuals, can be subject to changes without prior notice. VIDEX Electronics S.P.A. and VIDEX Security Ltd. cannot be held responsible for damages caused directly or indirectly by errors, omissions or discrepancies between the VIDEX parts and the technical manual.

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# Introduction

## MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the Art.2270 GSM interface module for the VX2200 digital system. This manual should be read carefully before the installation commences. Any damage caused to the equipment due to faulty installation where the information in this manual has not been followed is not the responsibility of Videx Security Ltd.

**It is recommended that the Art.2270 GSM module and any other Videx equipment is installed by a competent electrician, security or communications engineer.**

For UK customers Videx run free training courses for engineers who are unfamiliar or who have not installed this system before. Technical help is also available for UK customers on tel: 0191 224 3174 during office hours (8:30am - 5:00pm MON to FRI) or via e-mail: [tech@videxuk.com](mailto:tech@videxuk.com) and for all overseas customers on tel: +39 0734 631669 or via email: [technical@videx.it](mailto:technical@videx.it).

A copy of this Technical Manual can also be downloaded from the Videx websites: [www.videxuk.com](http://www.videxuk.com), [www.videx.it](http://www.videx.it).

## SYSTEM INTRODUCTION

The Art.2270 GSM module is designed to work on the same technology as mobile phones and also interface with the VX2200 digital 2 wire bus system. It enables a call to be made from an entry point (door, gate etc.) to any telephone number (mobile or land line). It connects directly to the 2 wire bus (L and - databus) and is compatible with the full range of VX2200 intercom panels both functional and digital and because of this flexibility it can be integrated into small or large VX2200 digital systems that also comprises of Videx audiophones (e.g. Art.3171 etc.) and videophones (e.g. Art.6272 etc.).

It is possible to program up to 180 users where programming is carried out using phones ID's with each programmed phone ID able to call four telephone numbers (if the first is busy or not answered, the call can be diverted to up to three different numbers). The GSM module works on either a 2G or 3G network. Features of the system include:


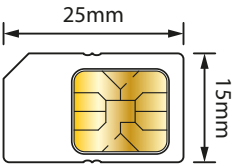

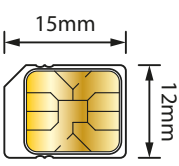

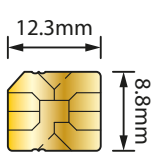
- Program up to 180 users (phone ID's 1 to 180) each with 4 programmable telephone numbers (primary and 3 diverts);
- Can be programmed with land line and/or mobile phone numbers;
- Programmed numbers (land line and/or mobile) can be used in conjunction with Videx's VX2200 audiophones and/or videophone range;
- 3 dry contact relay outputs (relay 1, 2 and 3) and 3 switched 0V auxiliary inputs (A1, A2 and A3);
- 3 programmable automated SMS messages triggered by the auxiliary inputs;
- Apartment alarm signal on the L and - databus which can activate the relays and/or send an SMS message to the master number;
- Dial to Open facility for each relay output (this feature enables up to 1000 stored numbers (000 - 999) per relay to dial into the GSM module, the module will not answer these calls, but will activate the corresponding relay without being charged for the call);
- Programmable timeband facility;
- Micro USB connection (for ease of programming using the GSMSK PC software);
- RS485 bus connection (for ease of programming using the GSMSK PC software);
- Integrated bootloader function (for updating the module's firmware via the GSMSK PC software);
- Event logging system that can record up to 8000 events which can be downloaded via the GSMSK PC software;
- Remote event logging facility (unlimited events) which can be monitored in real-time (also refer to additional notes on page 45 under **user management**).

Programming of the telephone numbers and the additional features can be carried out via text messaging (refer to pages 25 to 40) or using the GSMSK PC software (refer to the **GSMSK\_66251720-EN\_V2-0** software manual or later version).

## SIM CARD SELECTION

**A SIM card is required for this product but not supplied by Videx.** The Art.2270 GSM module can only accept a standard size SIM card (refer to the following SIM card size chart), both a micro-SIM and nano-SIM are not suitable. It is recommended to choose the SIM card which has the best coverage for the area in which the intercom panel will be installed. Both contract and 'Pay as you go' SIM cards can be used, however if using a 'Pay as you go' we would recommend setting up an automatic top up to avoid running short on credit and losing the use of the intercom panel. Alternatively if you already have a contract mobile phone it should be possible to get a second SIM card and telephone number on the existing account. For more information contact the SIM card provider or visit their web sites.

## Introduction

Standard SIM		Micro-SIM		Nano-SIM	
					

### NETWORK PROVIDER SELECTION

It is imperative that for the reliable operation of the system that the best network provider for the area is selected. Problems such as network disconnection can occur if the provider has signal or interference problems for that area. We would recommend using a GSM signal strength meter to survey the intended antenna location. Contact Videx for more information on where to purchase a tester.

For UK customers, as an initial check we also recommend visiting the ofcom website [www.ofcom.org.uk](http://www.ofcom.org.uk) and follow the onsite links to their online mobile coverage tool (*ofcom broadband and mobile checker app*). This tool will advise on the best coverage for the main network providers and other general queries that you may have about the service provider. For all overseas customers we suggest consulting the website of the network provider that will be used to check the coverage in your area.

The antenna should always be mounted vertically at the highest point possible. Metal structures and sources of interference such as power cables, control panels etc. can affect signals and so the antenna should be mounted away from these.

When registering a new SIM you may be asked for the IMEI number. This is the unique serial number of the GSM module. This number is located internally on the main hardware chip inside the module. To obtain the IMEI number from the GSM module refer to the programming notes **obtain the GSM's IMEI number** on page 40.

### PRECAUTIONARY ADVICE

- When mounting the GSM antenna, choose a location which is away from human interaction and away from the GSM module. Route the GSM antenna cable from the module so that it is separate from the power supply cables.
- Always ensure the power is switched **OFF** to the GSM module before inserting or removing the SIM card.
- New SIM cards will need registering with the network service provider before they can be used. Full details of how this is done can normally be found in the SIM card pack. It will normally require that the SIM card is inserted into a mobile phone, a number dialled and instructions followed. While the SIM is in the mobile phone it would be a good time to disable any PIN codes, call diverts, ring back and disable features such as voicemail and text alerts. Details of how to do this can be found on the SIM card provider's web site or by calling their customer services. Recommended SIM card providers for the UK are: Vodafone, T-Mobile, O2 or Orange/EE. For network service providers outside of the UK it is recommended that you consult with the service providers of your respective country directly either by telephone or via their website.
- To be able to receive text messages from the GSM module, the SIM card will require an SMS service centre number. This is normally preinstalled on new SIM cards but if you are having trouble receiving SMS messages you will need to confirm this by inserting the SIM card into a mobile phone and using the phones menu options to check it. If a number is not programmed then it should be programmed while in the phone (the number can be obtained from the network service provider).
- Voicemail and text alerts must be switched **OFF** on the SIM card when using the dial in to release the door/gate feature. For Vodafone and O2 this can be done while the SIM card is in the GSM module. For Orange/EE, T-Mobile and other providers the SIM card must be removed from the module, inserted into a mobile phone and the mobile phone menu instructions followed. This procedure may vary from provider to provider of different countries, we suggest contacting your provider for information.
- When storing the GSM module's telephone number in your own mobile phone avoid using an obvious name such as 'Front Door, or 'My Gate' as this would make it easy to decipher if your phone was lost or stolen.
- The PIN request feature must be disabled on the SIM card before using it in the module. It is likely on a new SIM card that it will not be enabled but if it is, it will prevent the system from working at all.
- This product may not be suitable for installation in hospitals, health care facilities or in the presence of flammable gases or liquids. Seek advice and authorisation before installing this product in these locations. **This product is not designed to be used as an emergency call point.**

*Network provider and services configuration codes mentioned in this manual are specific for the UK. For overseas customers please contact the network provider of your country for the corresponding codes, however Videx offers **no guarantee** that any additional codes will work.*

### IMPORTANT NOTE ABOUT THE SIM

When using a pay monthly SIM card you must ask the service provider to put a spend limit (credit limit) on the account (Vodafone call this service 'spend checker'). This is to safeguard against possible problems which could result in a large phone bill at the end of the month. All providers offer this service. You will need to either ring them or e-mail them to set this up. Automatic top ups should also have a monthly limit. We would suggest a limit of £50.00 which should be more than enough. **This service is not provided by Videx.**

# System Components

## DESCRIPTION

For the Art.2270 GSM module to work the system requires any intercom panel from the VX2200 range (see table below), a 12Vdc power supply (HDR-15-12, 12Vdc 1.25A), a standard 25mm x 15mm size SIM card (refer to notes on **Sim Card Selection** on pages 4 and 5) and an Art.432 GSM antenna.

Like other devices for the digital VX2200 2 wire bus system the Art.2270 GSM module connects to the 2 wire databus L and -. Programming of the module can be carried out by sending text (SMS) messages or by using the GSMSK PC software (ver 4.0.0.0 or later), also refer to the programming manual **GSMSK\_66251720-EN\_V2-0** (or later).

## COMPATIBLE VX2200 INTERCOM PANELS

The following table shows the range of VX2200 intercom panels that can be used with the Art.2270 GSM module:

Functional Panel Type	Description
<b>Art.4203-n, Art.4204-n, Art.4204X-n</b> (audio)	4000 series modular range audio panels, where n = <b>0, 1, 2, 1D</b> or <b>2D</b> buttons. When using the audio panel the appropriate 4000 series button module(s) may be required ( <b>Art.4842..Art.4845, Art.4842D..Art.4845D, Art.4042..Art.4045</b> and <b>Art.4042D..Art.4045D</b> ) depending on the size of the system.
<b>Art.4283-n, Art.4284-n, Art.4284X-n</b> (audio & video)	4000 series modular range video panel, where n = <b>0, 1, 2, or 1D</b> buttons. When using the video panel the appropriate 4000 series button module(s) may be required ( <b>Art.4842..Art.4845, Art.4842D..Art.4845D, Art.4042..Art.4045</b> and <b>Art.4042D..Art.4045D</b> ) depending on the size of the system.
<b>Art.8203-n</b> (audio)	8000 series modular range audio panel, where n = <b>0, 1</b> or <b>2</b> buttons. When using the audio panel the appropriate 8000 series button module(s) may be required ( <b>Art.8842..Art.8845</b> and <b>Art.8842D..Art.8845D</b> ) depending on the size of the system.
<b>Art.VR4KAM2W-n</b> (audio)	Vandal Resistant 4000 series modular range audio panel, where n = <b>0, 1, 2, 3</b> or <b>1NP</b> buttons. When using the audio panel the appropriate VR4K series button module(s) may be required ( <b>Art.VR4KBM-4..Art.VR4KBM-9, Art.VR4KBM-2NP..Art.VR4KBM-4NP</b> ) depending on the size of the system.
<b>VR120/138-n</b> (audio)	Vandal Resistant VR120 series audio panel, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR120/138-n/CL</b> (audio + codelock)	Vandal Resistant VR120 series audio panel with codelock facility, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR120/138-n/PR</b> (audio + proximity)	Vandal Resistant VR120 series audio panel with proximity reader, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR120/138-n/V</b> (audio & video)	Vandal Resistant VR120 series video panel, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR120/138-n/V/CL</b> (audio & video + codelock)	Vandal Resistant VR120 series video panel with codelock facility, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR120/138-n/V/PR</b> (audio & video + proximity)	Vandal Resistant VR120 series video panel with proximity reader, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR130/2W-n, VR130/2W-n/NP</b> (audio & video)	Vandal Resistant VR130 series video panel (including nameplate window versions), where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR130/2W-n/CL,</b> (audio & video + codelock)	Vandal Resistant VR130 series video panel with codelock facility, where n = the number of call buttons required ( <b>up to 24</b> ).
<b>VR130/2W-n,</b> (audio & video + proximity)	Vandal Resistant VR130 series video panel with proximity reader, where n = the number of call buttons required ( <b>up to 24</b> ).
Digital Panel Type	Description
<b>Art.4202 series</b> (audio)	4000 series modular range, digital audio panel (with A-F alpha-numeric keypad, <b>Art.4202</b> or name scroll facility, <b>Art.4202/R</b> ).
<b>Art.4202V series</b> (audio & video)	4000 series modular range, digital video panel (with A-F alpha-numeric keypad, <b>Art.4202V</b> or name scroll facility, <b>Art.4202/RV</b> or name scroll facility).
<b>Art.8202 series</b> (audio)	8000 series modular range, digital audio panel (with A-H alpha-numeric keypad, <b>Art.8202</b> or name scroll facility, <b>Art.8202R</b> ).
<b>SP300-1 series</b> (audio)	Vandal Resistant 2200 digital audio panel and bezel box.

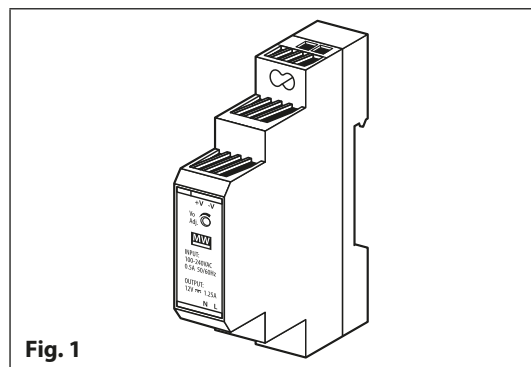


## System Components

<b>SP301-1C series</b> (audio & video)	Vandal Resistant 2200 digital video panel with colour camera and bezel box.
<b>Art.4212 series</b> (audio)	Vandal Resistant 4000 series modular range, digital audio panel (with A-F alpha-numeric keypad, <b>Art.4212</b> or name scroll facility, <b>Art.4212R</b> and proximity). Including <b>Art.4212/UK</b> and <b>Art.4212R/UK</b> .
<b>Art.4212V series</b> (audio & video)	Vandal Resistant 4000 series modular range, digital video panel (with A-F alpha-numeric keypad, <b>Art.4212V</b> or name scroll facility, <b>Art.4212RV</b> and proximity). Including <b>Art.4212V/UK</b> and <b>Art.4212RV/UK</b> .

### 12VDC 1.25A POWER SUPPLY (HDR-15-12)

The Art.2270 GSM module is designed to work with power supplies in the range of 12Vdc-13.8Vdc and should be capable of supplying a constant current of no less than 1A. The recommended power supply to use is the HDR-15-12, 12Vdc 1.25A slim line power supply, see **Fig.1**.



**Fig. 1**

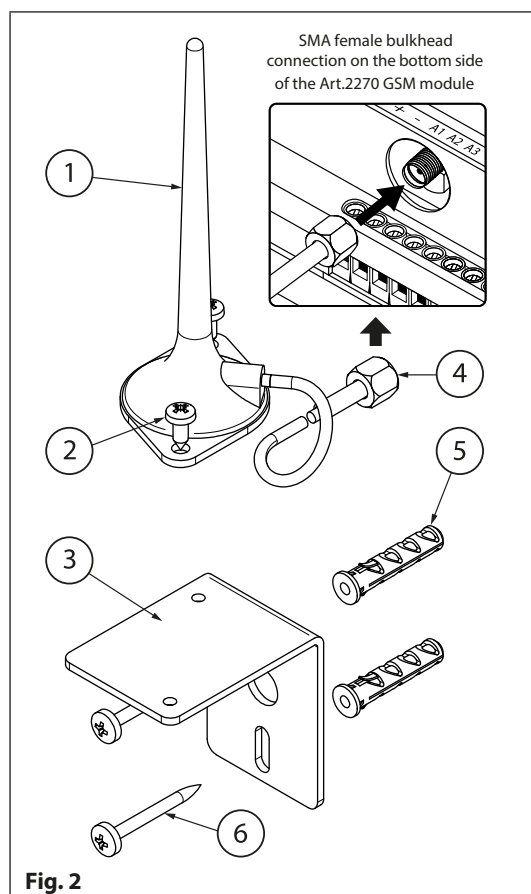
### ART. 432 OR ART. 433 GSM ANTENNA

The Art.432 or Art.433 GSM antenna connects to the SMA female bulkhead connection on the bottom side of the Art.2270 GSM module (just above the A1 and A2 terminals). A GSM antenna with an SMA male connector should be used (see to **Fig.2**).

#### Antenna Parts

1. GSM antenna with magnetic base.
2. Self-threading screw ( $\varnothing 3.5\text{mm} \times 9.5\text{mm}$ ).
3. Aluminium L bracket for mounting.
4. SMA male connector (cable length 2.5m).
5. Expansion type wall plugs ( $\varnothing 6\text{mm}$ ).
6. Self-threading screw ( $\varnothing 4\text{mm} \times 30\text{mm}$ ).

**IMPORTANT NOTE:** An antenna must always be fitted for the Art.2270 GSM module to work. Always route the GSM antenna cable away from the module to avoid interference on the speech channels.

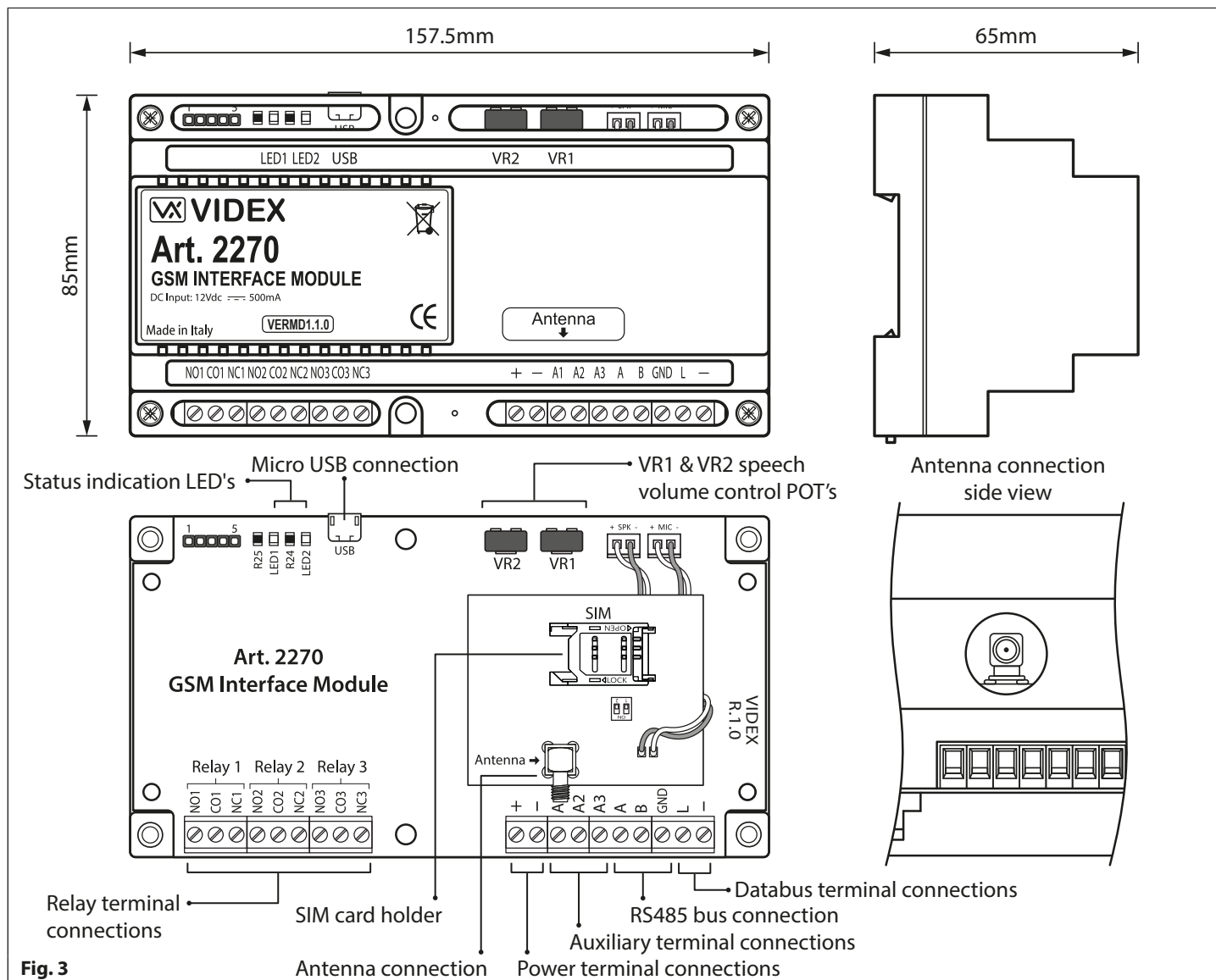


**Fig. 2**

**IMPORTANT NOTE:** Intercom panel setup and configuration for the compatible panel types listed in the table shown on page 6 can be found in either the VX2200 technical manual: VX2K2HDIGSYS Version 1.1 (or later) or the relevant installation instructions that accompany the respective intercom panel.

# Technical Information

## ART. 2270 MODULE



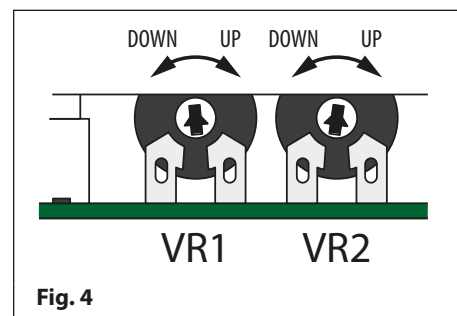
### MODULE VOLUME ADJUSTMENT POTS (VR1 & VR2)

There are 2 volume adjustment POT's located on the top right side of the Art.2270 module, see **Fig.3**. The **VR1** POT control can be used to adjust the speech volume towards the door panel (panel's speaker) and the **VR2** POT control can be used to adjust the speech volume towards the telephone line (panel's microphone). Additionally, the volume can also be adjusted during a call electronically via the telephone keypad (refer to user command table 1 on page 43).

By default both the **VR1** and **VR2** adjustment POTs are set to approximately halfway, see **Fig.4**.

**Speaker Volume Adjustment (speech from phone to panel)** - to increase the speaker volume turn the **VR1** POT clockwise (up) and to decrease the speaker volume turn the **VR1** POT anti-clockwise (down).

**Microphone Volume Adjustment (speech from panel to phone)** - to increase the microphone volume turn the **VR2** POT clockwise (up) and to decrease the microphone volume turn the **VR2** POT anti-clockwise (down).



### USB CONNECTION

The micro-USB connection allows the Art.2270 module to be connected to a laptop/PC for ease of programming (refer to page 19 for connecting the GSM module to a laptop/PC). Further information on programming using the GSMSK PC software can be found in the following manual: **GSMSK\_66251720\_EN\_V2-0** (or later version).

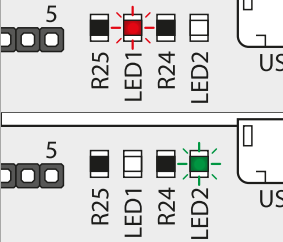


## Technical Information

### TERMINAL CONNECTIONS

Terminal	Description	
NO1	Normally open 1 relay contact.	Relay 1, 2 and 3 contacts: 3A@24Vdc 3A@120Vac
CO1	Common 1 relay contact.	
NC1	Normally closed 1 relay contact.	
NO2	Normally open 2 relay contact.	
CO2	Common 2 relay contact.	
NC2	Normally closed 2 relay contact.	
NO3	Normally open 3 relay contact.	
CO3	Common 3 relay contact.	
NC3	Normally closed 3 relay contact.	
+	+12Vdc power input (500mA max.)	
-	0V ground power.	
A1	Auxiliary 1 input (triggers relay 1 when A1 mode set to 000, switched 0V, default).	
A2	Auxiliary 2 input (triggers relay 2 when A2 mode set to 000, switched 0V, default).	
A3	Auxiliary 3 input (triggers relay 3 when A3 mode set to 000, switched 0V, default).	
A	RS485 bus connection (for ease of programming and permanent connection for monitoring purposes).	
B		
GND		
L	BUS line data input.	
-	BUS line ground input.	

### STATUS INDICATION LED'S

LED	Description
	<p>During 'power up' the red LED (LED1) will flash continuously while trying to connect the Art.2270 module to the network. As soon as the module is connected to the network it will switch OFF. The LED will also switch ON whenever the line is in use or the module is busy and will flash whenever the network connection is lost and is trying to re-establish a connection.</p> <p>The green LED (LED2) will flash whenever it sees data on the L and - bus connection (when the Art.2270 module is in use). The LED will switch ON and stay ON during communication via the USB or RS485 bus connection. In standby when the module is not in use the LED will be switched OFF.</p>

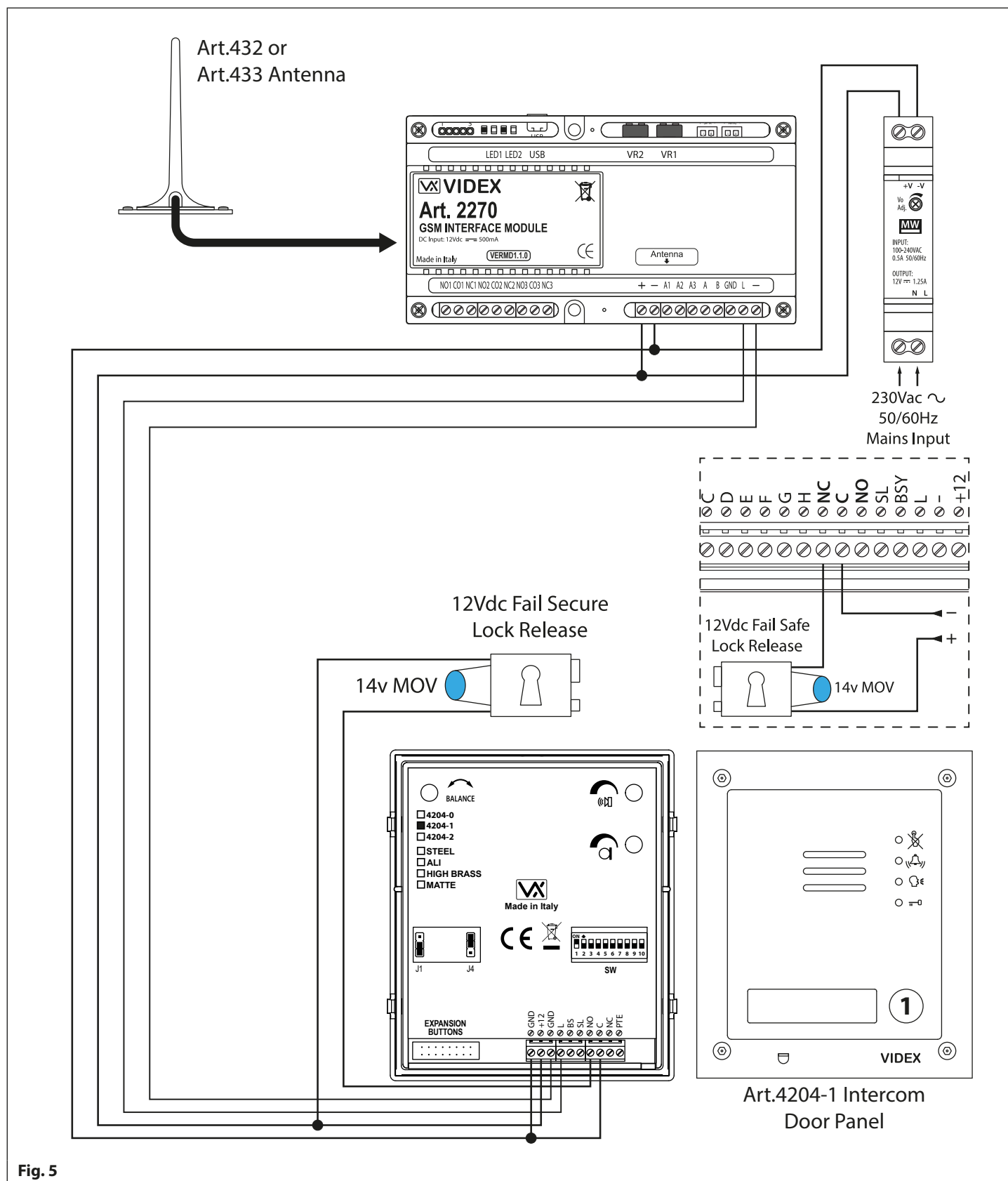
### TECHNICAL SPECIFICATION

Working Voltage:	12Vdc +/- 10%
Standby Current:	approx. 60mA
Max. Current:	approx. 500mA (max.)
Phone ID's (call buttons):	1 up to 180 (max.)
Telephone Numbers per ID:	4 telephone numbers (1 primary, 3 diverts)
Dial to Open Numbers:	up to 1000 per relay (max.) <b>S1R, S2R and S3R</b> , 3000 DTO numbers in total
Status Indication LED's:	2 (red LED1 power up/busy, green LED2 data)
Programming:	SMS text messages, <b>GSMSK</b> PC software or GSM mobile Apps ( <b>SMS Wizard</b> and <b>SMS Wizard Pro</b> )
Auxiliary Inputs:	3 ( <b>A1, A2</b> and <b>A3</b> switched 0V input)
Dry Contact Relay:	3 (relay <b>R1, R2</b> and <b>R3</b> ), 3A @ 24Vdc, 3A @ 120Vac
Event Log:	up to 8000 stored events (unlimited events via remote event logging facility)
USB Port:	micro USB
RS485 Bus Connection:	A, B and GND
Timebands:	1 timeband <b>TBA</b> for phone ID's, 10 programmable timebands (0 - 9) <b>ATB</b> for DTO numbers
Access Levels:	10 access levels (0 - 9) <b>ACC</b> for DTO numbers
Free Access Timebands:	10 free access timebands (0 - 9) <b>FRE</b> for relay <b>R1, R2</b> and <b>R3</b>
Dimensions:	157.5mm (W) x 85mm (L) x 65mm (D)
Working Temp:	-10 +50°C

# Wiring Diagrams

## FUNCTIONAL INTERCOM PANEL CONNECTIONS

The following wiring diagram, **Fig.5**, shows the wiring connections for a functional panel, in this example an **Art.4204-1** (speaker) functional panel. The wiring configuration of the panel's buttons can be found in the relevant installation instructions that come with the speaker module. The same wiring diagram can also be used for other series functional panels.



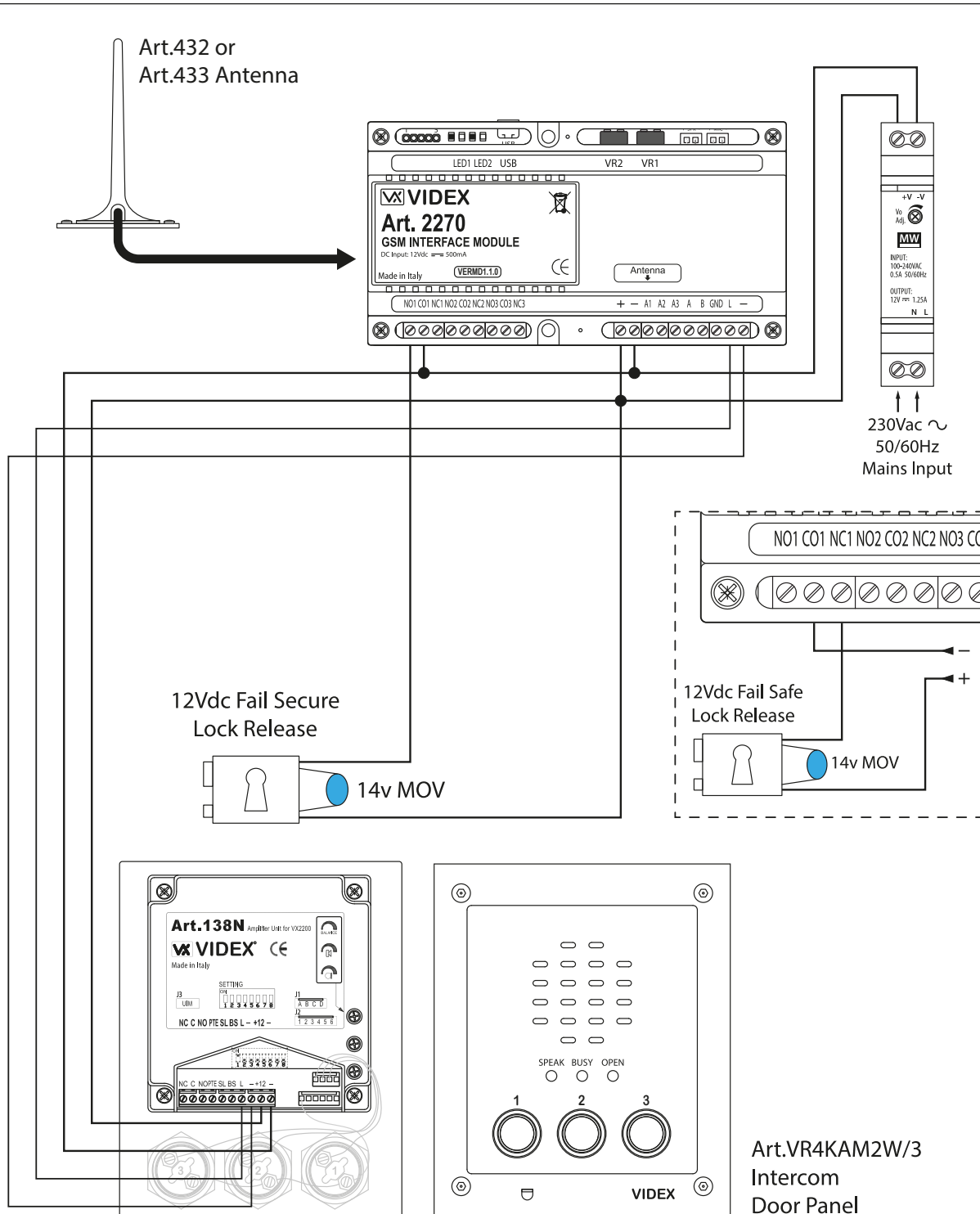
**Fig. 5**

A fail secure lock release is shown, for fail safe lock release connections move the lock wire from normally open (NO) across to terminal normally closed (NC) on the speaker module, as shown in **Fig.5** inset.

## Wiring Diagrams

### FUNCTIONAL INTERCOM PANEL CONNECTIONS (SECURED BY DESIGN LOCK WIRING)

The following wiring diagram, **Fig.6** similar to **Fig.5** shown on page 10, shows the wiring connections for a functional panel, in this example an **Art.VR4KAM2W** (**Art.138N** speaker) functional panel. To meet the Secured by Design specification the lock release is connected directly from the relay output (in this example relay 1) on the GSM module. The GSM module would be located in a secure location away from the intercom door panel with only the connections for the L and - databus and power connections. The wiring configuration of the panel's buttons can be found in the following technical manual: **VX2K2HDIGSYS Version 1.1** or the relevant installation instructions that come with the speaker module. The same wiring diagram can also be used for other series functional panels.



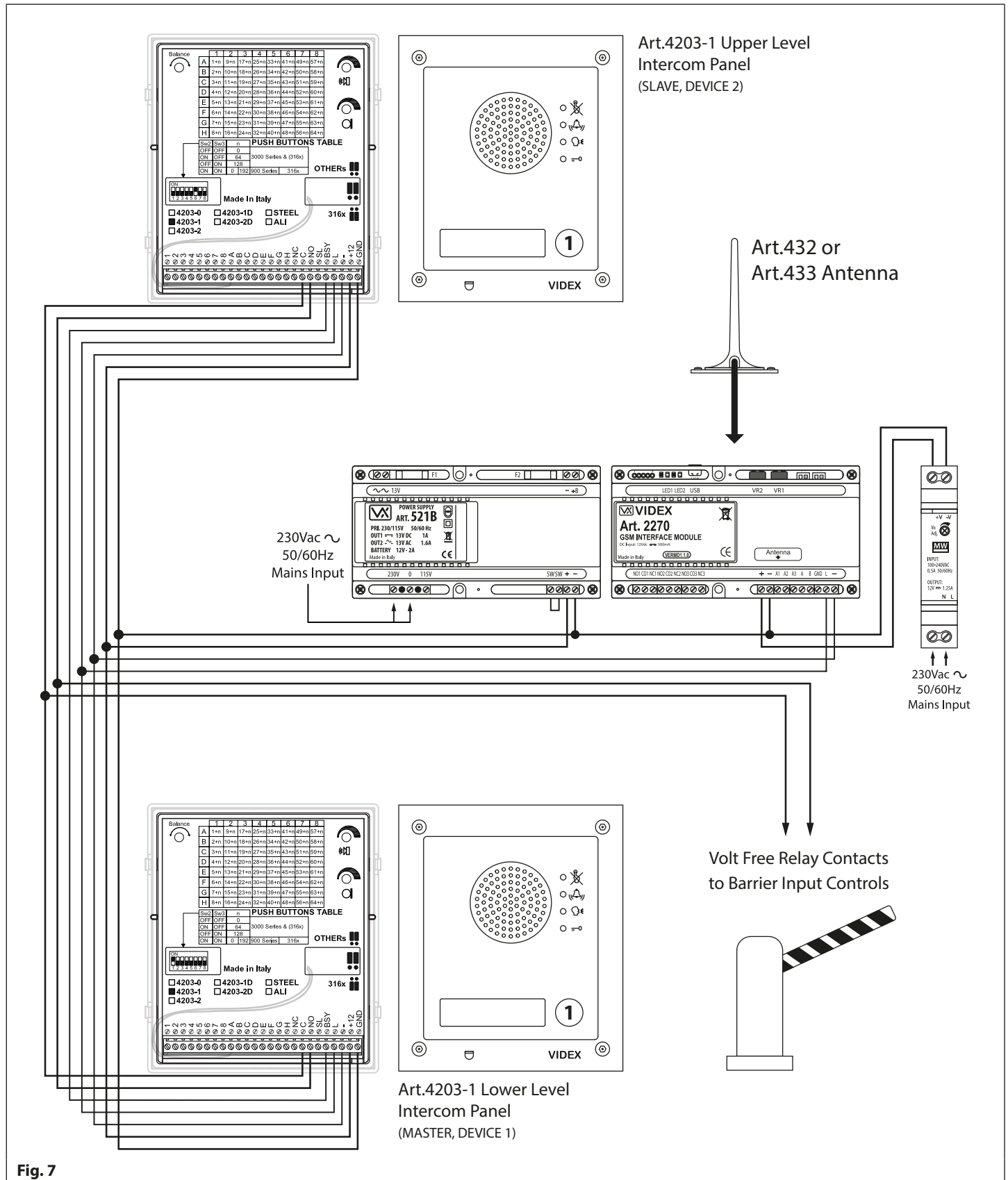
**Fig. 6**

A fail secure lock release is shown, for fail safe lock release connections move the lock wire from normally open (**NO1**) across to terminal normally closed (**NC1**) as shown in **Fig.6**. The same method of wiring locks can be applied to relay 2 and relay 3.

## Wiring Diagrams

### FUNCTIONAL INTERCOM PANEL CONNECTIONS (DUAL HEIGHT BARRIER EXAMPLE)

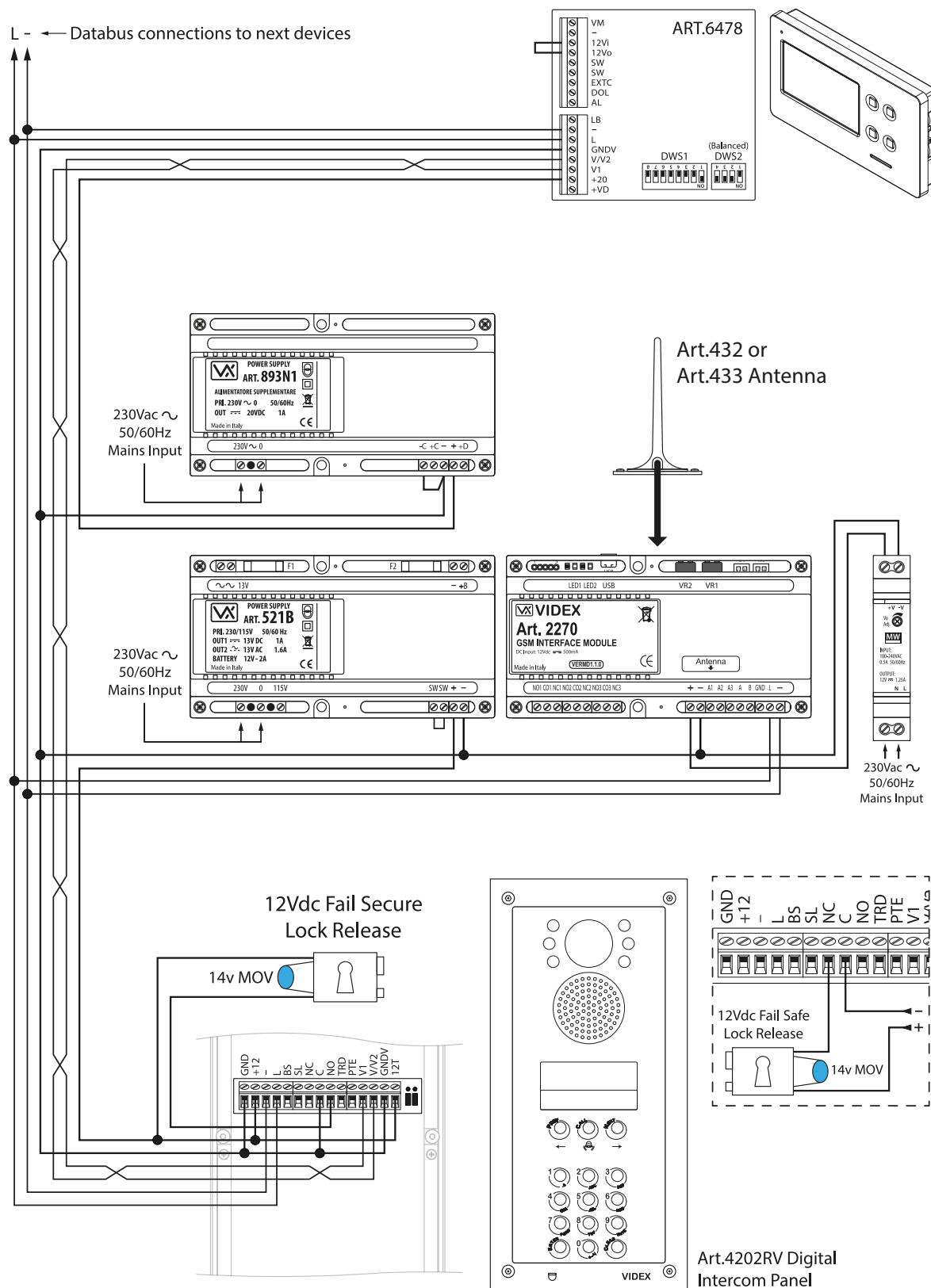
The following wiring diagram, **Fig.7**, shows the connections for two functional panels as a “dual-height barrier” configuration, in this example two **Art.4203-1** (speaker) panels with volt free connections to a set of barrier controls. The wiring configuration of the panel's buttons can be found in the following technical manual: **VX2K2HDIGSYS Version 1.1** or the relevant installation instructions that come with the speaker module. The same wiring diagram can also be used for other series functional panels.



## Wiring Diagrams

### DIGITAL INTERCOM PANEL CONNECTIONS

The following wiring diagram, **Fig.8**, shows the connections for a digital panel, in this example an **Art.4202RV** digital panel with other connections for an **Art.6478** videophone. The VX2200 system setup, configuration and the digital panel's programming can be found in the following technical manual: **VX2K2HDIGSYS Version 1.1**. For the **Art.6478** setup and configuration refer to the installation instructions: **66251320-EN-V2.0** (or later).



**Fig. 8**

**Fig. 9**

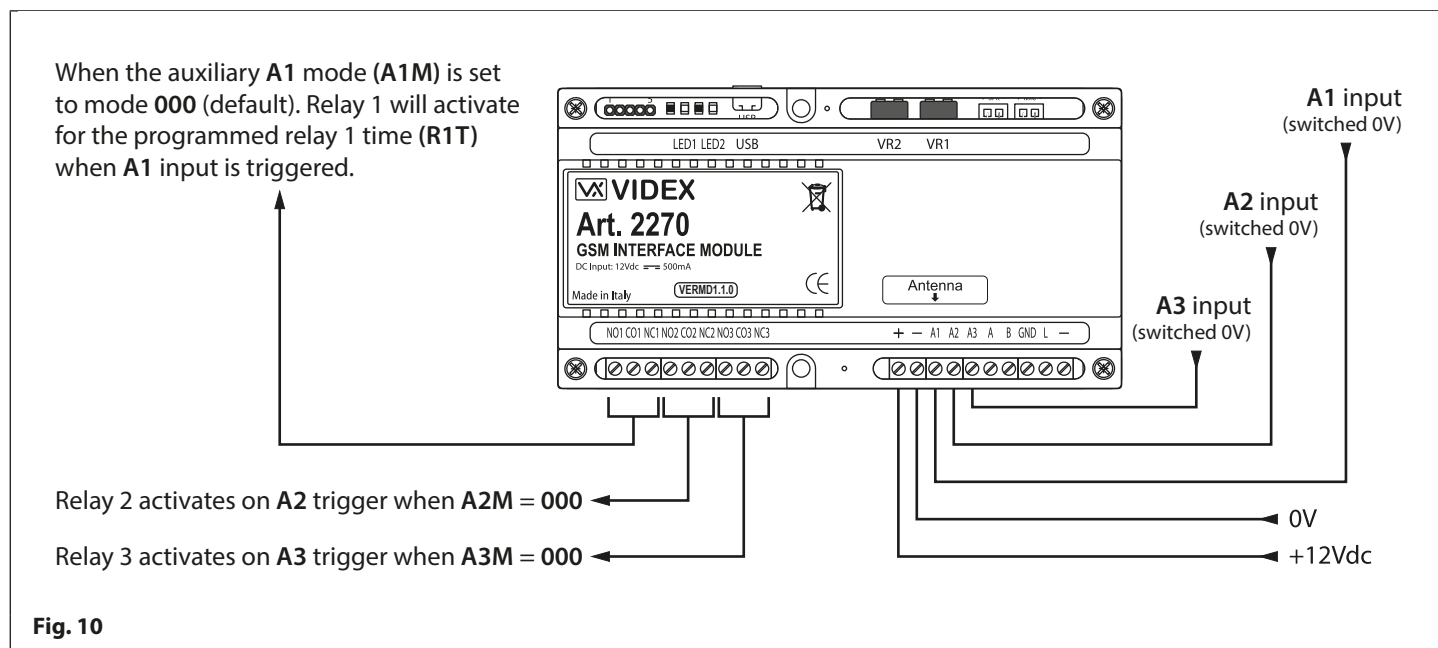


# Auxiliary Inputs & Relay Outputs

The Art.2270 module's auxiliary modes (A1M, A2M and A3M) can be programmed to 7 different modes (000 - 006), please refer to programming notes on how to set up the auxiliary output modes on pages 31 -32. The auxiliary modes can also be programmed using the GSMSK PC software, please refer to programming manual GSMSK\_66251720\_EN\_V2-0 (or later).

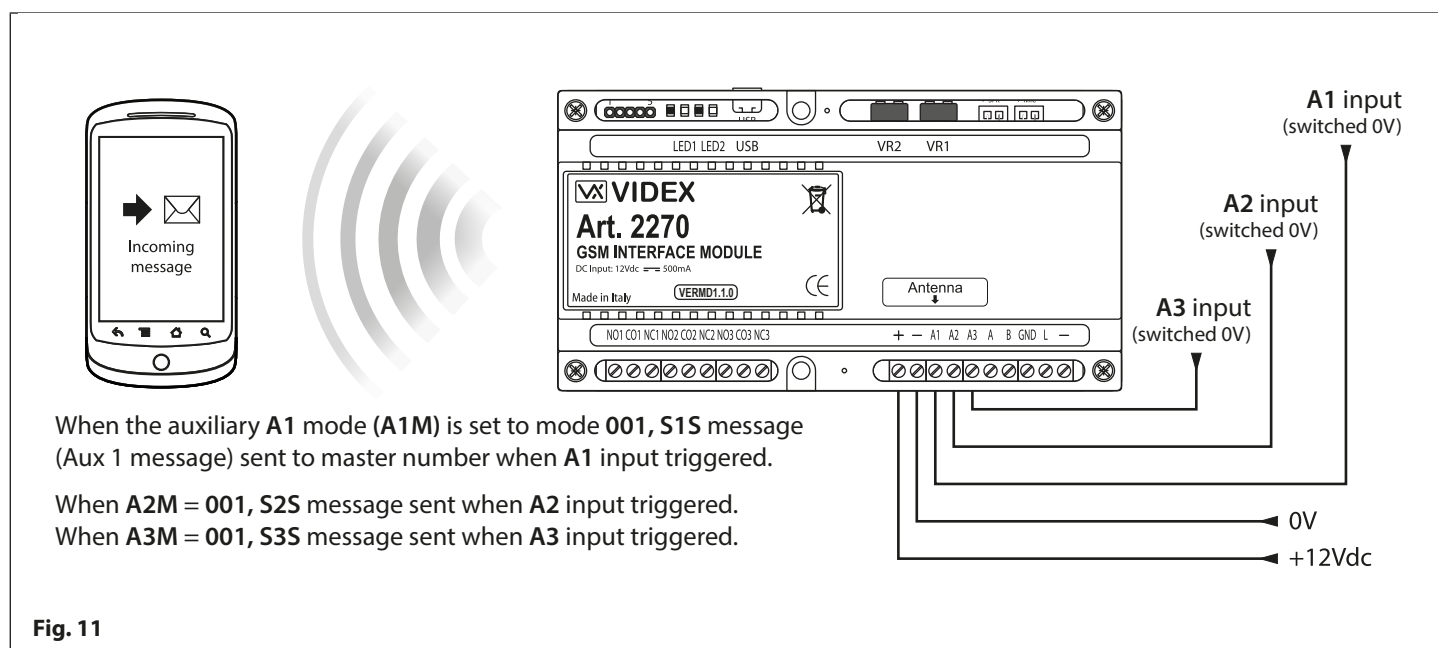
## AUXILIARY A1M, A2M AND A3M SET TO MODE 000 (TRIGGERS RESPECTIVE RELAY 1, 2 OR 3)

The example shown in **Fig.10** shows the connection for auxiliary A1 when the A1M mode is set to 000 (default mode). When auxiliary input A1 is triggered by a switched 0V signal it will activate relay 1 for the programmed relay 1 time R1T (also refer to programming notes for auxiliary mode set up and setting relay 1, 2 and 3 times). The auxiliary mode setup can also be applied for A2M and A3M and will activate their respective relays (i.e. A2 input for relay 2 and A3 input for relay 3).



## AUXILIARY A1M, A2M AND A3M SET TO MODE 001 (SEND SMS MESSAGE TO MASTER NUMBER)

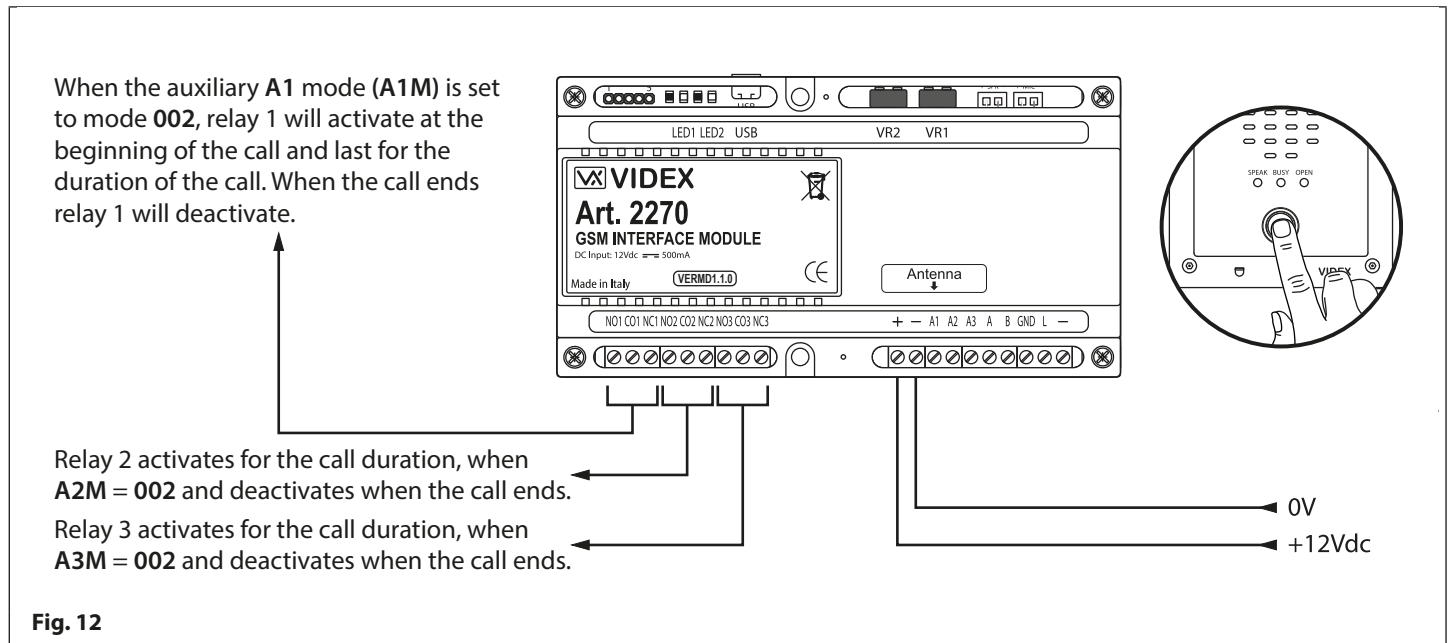
The example shown in **Fig.11** shows the connection for auxiliary A1 when the A1M mode is set to 001. When auxiliary input A1 is triggered by a switched 0V signal it will send the SMS message stored for S1S to the master number (also refer to programming notes for auxiliary mode set up, storing SMS 1, 2 and 3 messages and storing a master number). The auxiliary mode setup can also be applied for A2M and A3M and will send their respective SMS messages to the master number (i.e. A2 input for S2S message and A3 input for S3S message). Please note the maximum length of each SMS message can be up to 32 characters.



## Auxiliary Inputs & Relay Outputs

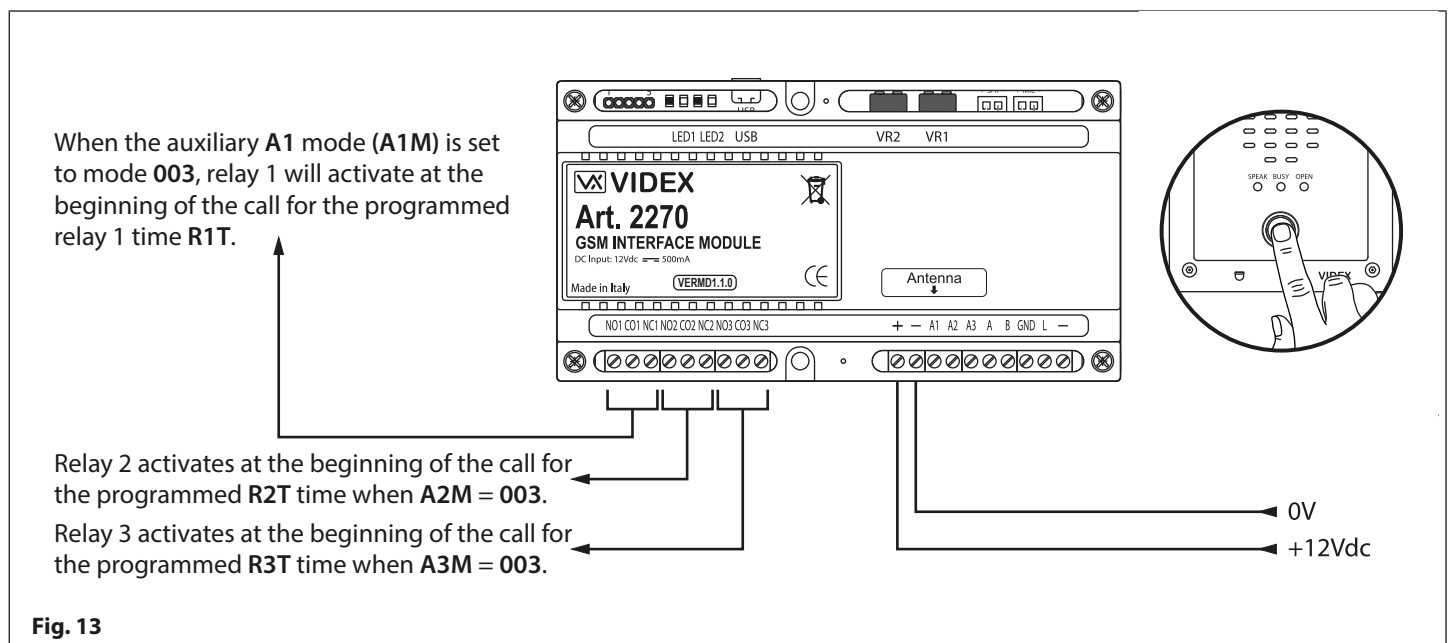
### AUXILIARY A1M, A2M AND A3M SET TO MODE 002 (TRIGGERS RESPECTIVE RELAY FOR DURATION OF CALL)

The example shown in **Fig.12** shows the connection for relay 1 when the **A1M** mode is set to **002**. Relay 1 will activate at the beginning of the call and last for the duration of the call (also refer to programming notes for auxiliary mode set up). The auxiliary mode setup can also be applied for **A2M** and **A3M** and will activate their respective relays (i.e. **A2M** for relay 2 and **A3M** for relay 3).



### AUXILIARY A1M, A2M AND A3M SET TO MODE 003 (TRIGGERS RESPECTIVE RELAY FOR THE PROGRAMMED RELAY TIME)

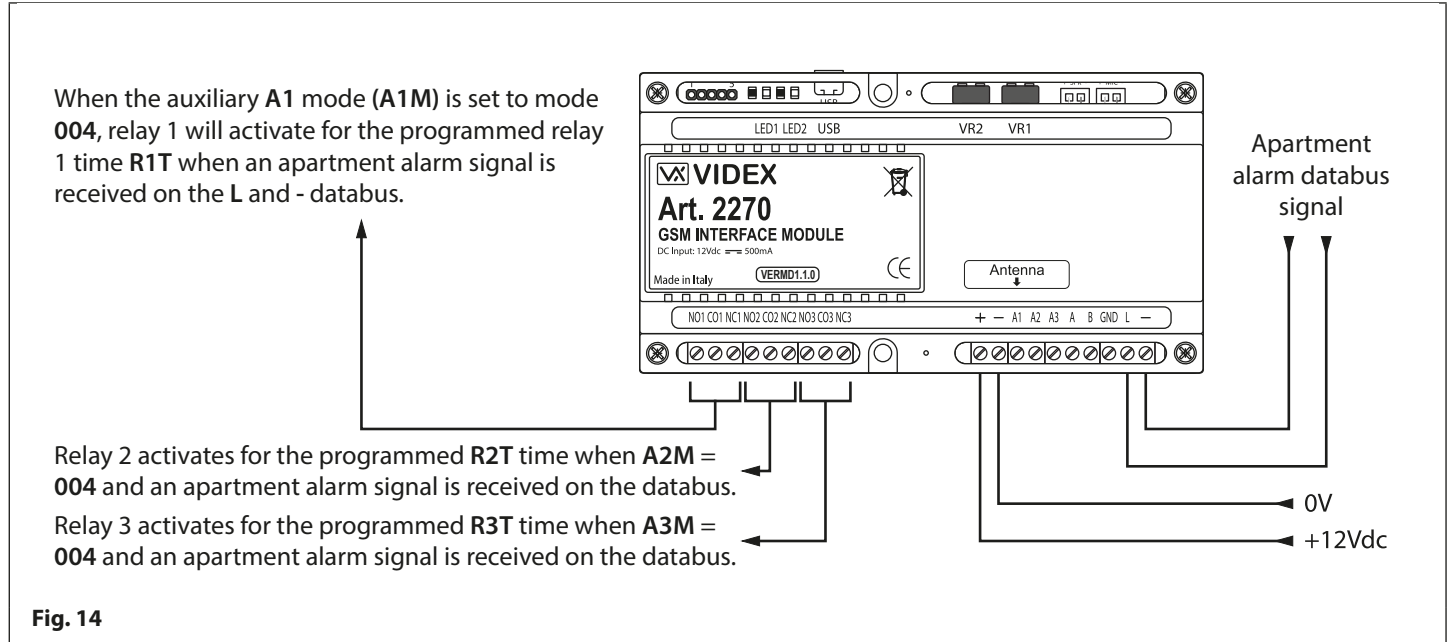
The example shown in **Fig.13** shows the connection for relay 1 when the **A1M** mode is set to **003**. Relay 1 will activate at the beginning of the call for the programmed relay 1 time **R1T** (also refer to programming notes for auxiliary mode set up and setting relay 1, 2 and 3 times). The auxiliary mode setup can also be applied for **A2M** and **A3M** and will activate their respective relays for their respective relay times (i.e. **A2M** for relay 2 time **R2T** and **A3M** for relay 3 time **R3T**).



## Auxiliary Inputs & Relay Outputs

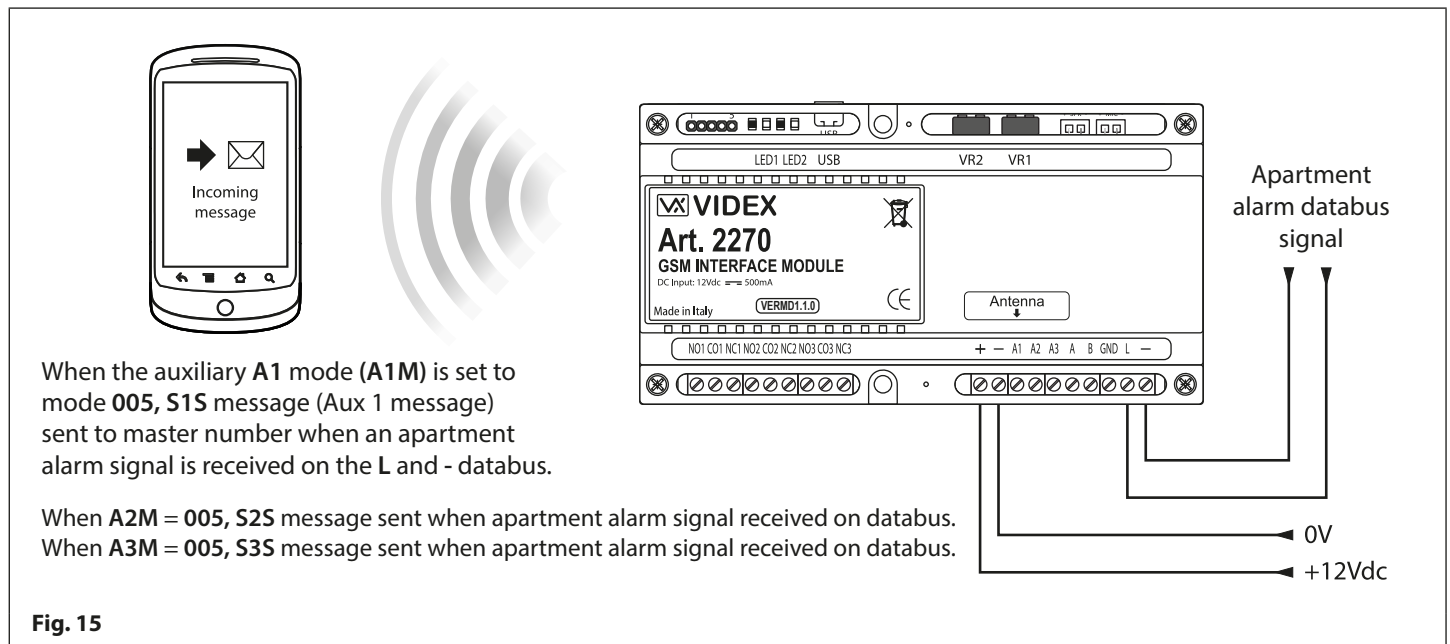
### AUXILIARY A1M, A2M AND A3M SET TO MODE 004 (TRIGGERS RESPECTIVE RELAY BY APARTMENT ALARM)

The example shown in **Fig.14** shows the connections for relay 1 and the L and - databus when the **A1M** mode is set to **004**. When the Art.2270 module receives an apartment alarm signal on the databus relay 1 will activate for the programmed relay 1 time **R1T** (also refer to programming notes for auxiliary mode set up and setting relay 1, 2 and 3 times). The auxiliary mode setup can also be applied for **A2M** and **A3M** and will activate their respective relays for their respective relay times (i.e. **A2M** for relay 2 time **R2T** and **A3M** for relay 3 time **R3T**).



### AUXILIARY A1M, A2M AND A3M SET TO MODE 005 (SEND SMS MESSAGE TO MASTER NUMBER WHEN TRIGGERED BY APARTMENT ALARM)

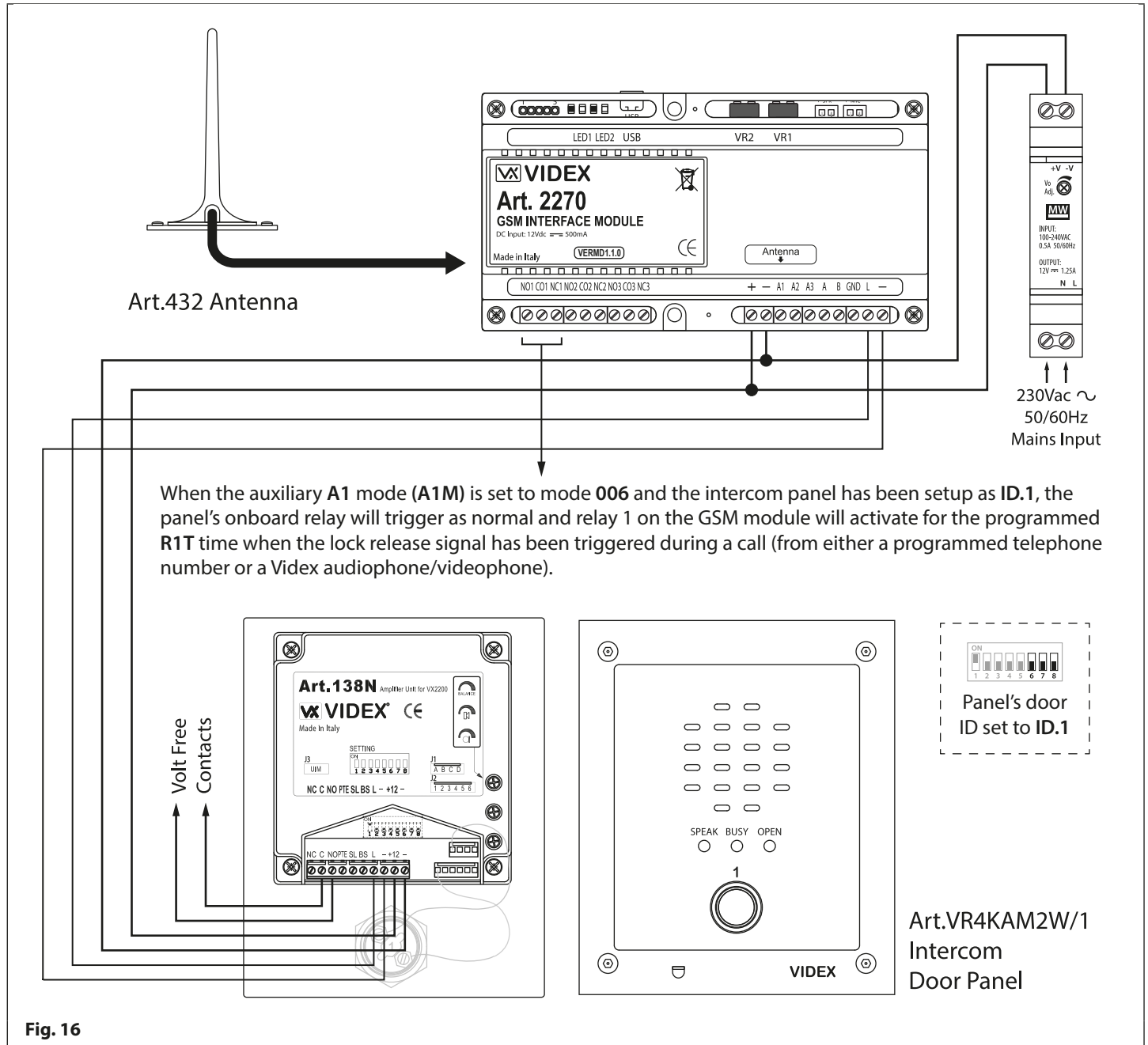
The example shown in **Fig.15** shows the connections for the L and - databus when the **A1M** mode is set to **005**. When the Art.2270 module receives an apartment alarm signal on the databus the GSM module will send the SMS message stored for **S1S** to the master number (also refer to programming notes for auxiliary mode set up, storing SMS 1, 2 and 3 messages and storing a master number). The auxiliary mode setup can also be applied for **A2M** and **A3M** and will send their respective SMS messages to the master number (i.e. **A2M** for **S2S** message and **A3M** for **S3S** message). Please note the maximum length of each SMS message can be up to 32 characters.



## Auxiliary Inputs & Relay Outputs

### AUXILIARY A1M, A2M AND A3M SET TO MODE 006 (RELAY 1, 2 OR 3 TRIGGERED BY DOOR ID 1, 2 OR 3 RESPECTIVELY)

The example shown in **Fig.16** shows the connection for relay 1 when the **A1M** mode is set to **006**. After a call has been made and answered at an apartment (whether it is a programmed telephone number for an apartment or a call made to a Videx audiophone/videophone in an apartment) and the intercom panel's ID (door ID) has been set to **ID.1** the panel's onboard relay will trigger as expected, but also relay 1 on the Art.2270 GSM module will activate for the programmed relay 1 time **R1T** when the lock release signal has been triggered (also refer to programming notes for auxiliary mode set up and setting relay 1, 2 and 3 times). The auxiliary mode setup can also be applied for **A2M** and **A3M** and will activate their relays for their respective relay times (i.e. **A2M** for relay 2 time **R2T** for door **ID.2** and **A3M** for relay 3 time **R3T** for door **ID.3**). For setting up the intercom panel's relay time and door ID refer to the relevant installation instructions that accompany the intercom panel.



**IMPORTANT NOTE:** Only one mode can be set for each auxiliary input (A1, A2 or A3) at any one time, however each individual auxiliary mode can be set differently e.g. auxiliary A1M could be set to mode 001, auxiliary A2M could be set to mode 003 and auxiliary A3M could be set to mode 006.

When any of the auxiliary modes A1M, A2M and A3M are set to mode 002 - 006 the auxiliary inputs A1, A2 and A3 can still activate their respective relays 1, 2 and 3 for the programmed relay times R1T, R2T and R3T as if in mode 000.

Mode 006 is only applicable for intercom panel door ID's 1, 2 and 3.

# USB & RS485 Connection

## CONNECTIONS TO A PC

The Art.2270 GSM module also includes two options for connecting to a PC: via a USB connection or via an RS485 connection. Both methods of connection are to allow for ease of programming and monitoring using the GSM SK PC software. All programming features described in this manual are also accessible using the software. Further information on using the GSM SK PC software can be found in the technical manual **GSM SK\_66251720\_EN\_V2-0** (or later).

### OPTION 1: USB CONNECTION

The GSM module can be connected using a standard micro-USB to USB cable as shown in **Fig.17**. This method of connection is primarily used for programming and setup of the GSM module only.

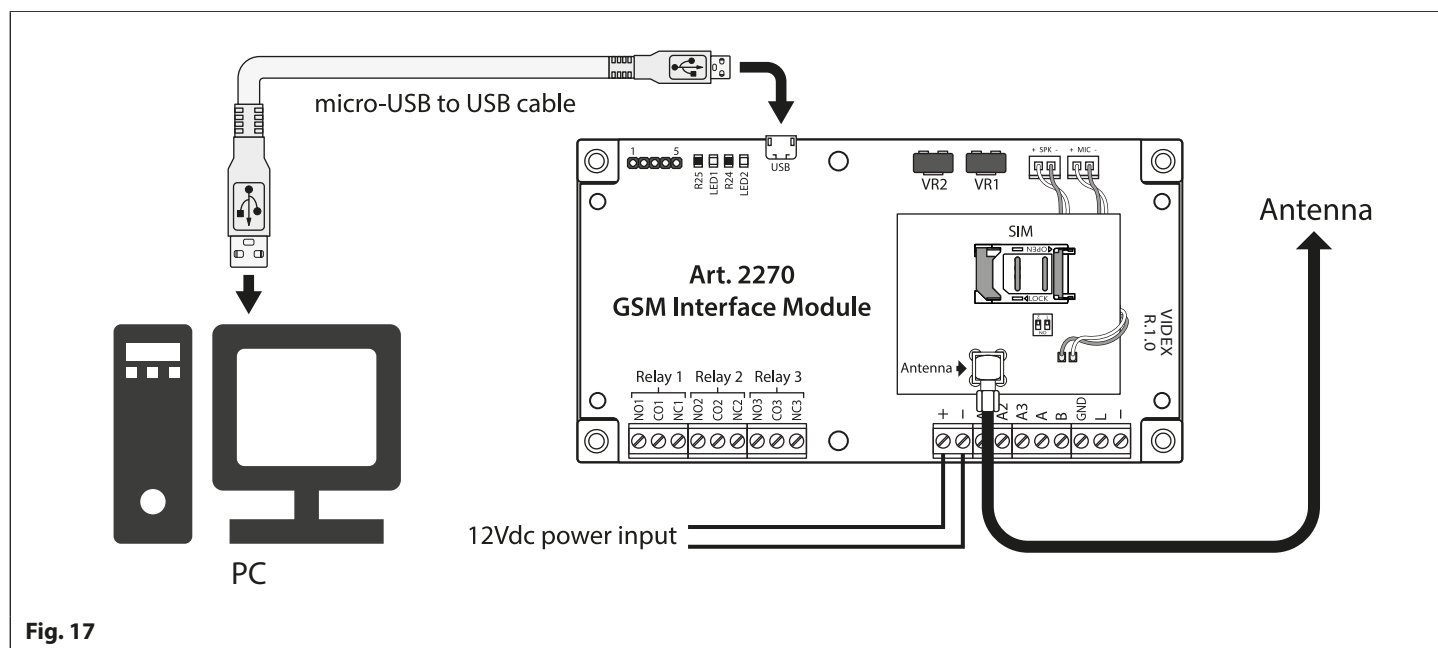


Fig. 17

### OPTION 2: RS485 CONNECTION

The GSM module can also be connected using an RS485 bus connection via an RS485 to USB converter (Art.481) as shown in **Fig.18** in instances where a permanent connection to a PC is required for monitoring purposes and downloading event logs. When connected in this way the GSM module can only be connected as a 'one-to-one' bus connection to the PC, another GSM module **cannot** be connected on the same RS485 bus to the PC.

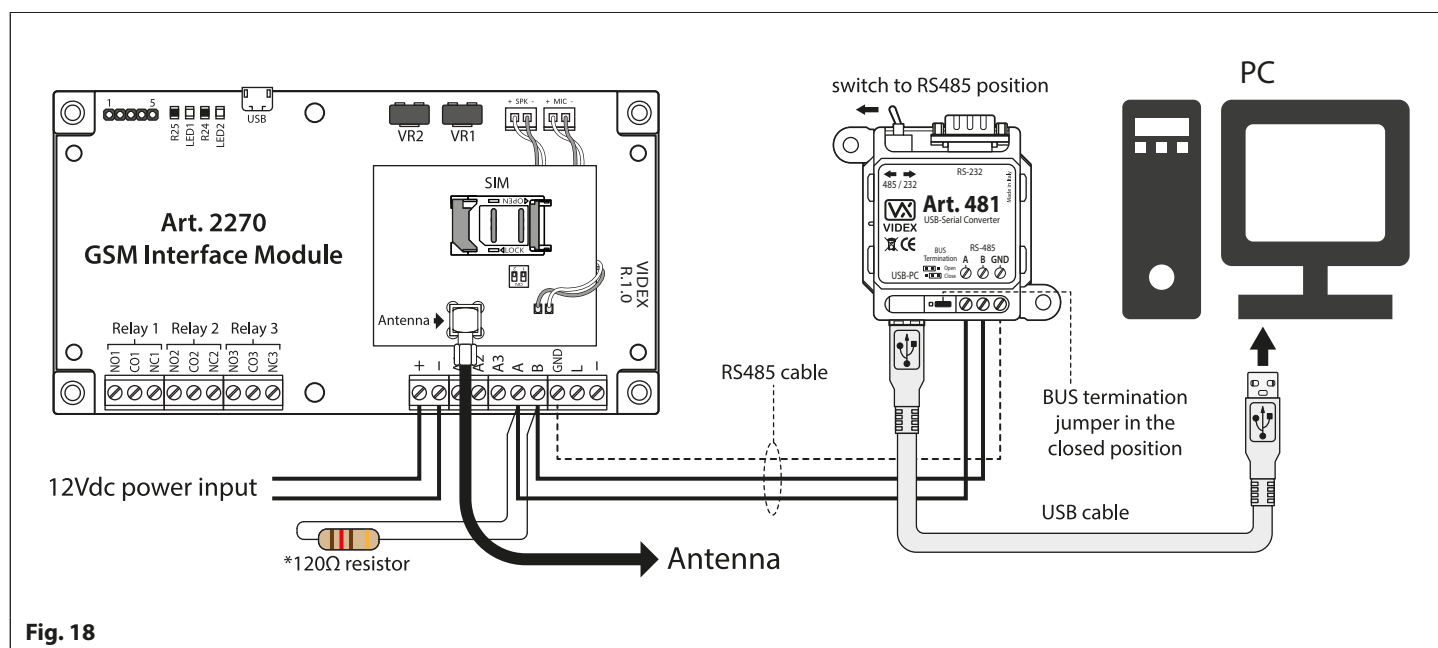


Fig. 18

\*For end of line termination a 120 Ohm resistor must be fitted across the RS485 terminals A and B, as shown in **Fig.18**.

# General Directions for Installation

## CABLE SIZE GUIDE

Refer to the table below for the connections for the power supply output to the GSM module and the lock release connections.

Distance	20m	50m	100m
Cross Sectional Area (CSA)	0.5mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>

Ideally the power supply should be located as close to the intercom panel as possible for best performance. The maximum acceptable resistance for the above cables = 3Ω or less for best possible performance.

For other VX2200 system devices refer to the following table. It is recommended that a twisted pair cable is used for the L and - databus connections and for balanced video signal connections V1 and V2 (for video systems).

VX2200 System Cable Requirements				
Connections	50m	100m	200m	300m
L	0.4mm <sup>2</sup>	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>
-	0.4mm <sup>2</sup>	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>
V1 *	0.35mm <sup>2</sup>	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>
V2 *	0.35mm <sup>2</sup>	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>
+20V *	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>
GNDV *	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>
+12V	0.4mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>
GND	0.4mm <sup>2</sup>	0.75mm <sup>2</sup>	1.0mm <sup>2</sup>	1.5mm <sup>2</sup>
All others **	0.25mm <sup>2</sup>	0.35mm <sup>2</sup>	0.5mm <sup>2</sup>	0.75mm <sup>2</sup>

\* - these connections are only required on video systems.

\*\* - these are optional connections (e.g. door monitoring LED).

The maximum acceptable resistance for all the above connections (except +20V and GNDV) = 7.5 Ohms or less and the maximum acceptable resistance for the video connections +20V and GNDV = 5 Ohms or less for best possible performance. Please note that all cable sizes shown in the tables above are the minimum cable requirements.

## RS485 CONNECTIONS

A CAT-5 cable is acceptable where 1 pair is used for the 0V/GND connection and a second pair is split between the A and B connections (i.e. 1 core of the pair is used for the A terminal, 1 core of the pair is used for the B terminal). The total overall distance between the first RS485 device in line (Art.481) and the last RS485 device in line (Art.2270 GSM module) should be no more than 500m max. for the best possible performance. It is also important that the end of line RS485 bus termination of the respective device (Art.481) is in the ON position, in the case of the GSM module a 120 Ohm resistor should be fitted across the A and B bus terminal connections as shown in **Fig.18**, page 19).

**IMPORTANT NOTE:** Only bare copper (BC) cable should be used (solid or stranded is acceptable). Please be aware that when selecting a cable the following should NOT be used: Copper Coated Steel (CCS) and Copper Clad Aluminium (CCA). While these types of cable may offer a low cost solution they will have a higher resistance than pure copper cable and can affect the overall performance of the system therefore Videx DO NOT recommend these types of cable.

Further cabling information can be found the technical manual **VX2200Blocks1-2** and is also provided in any accompanying installation instructions with the various VX2200 system components.

## GENERAL INSTALLATION NOTES

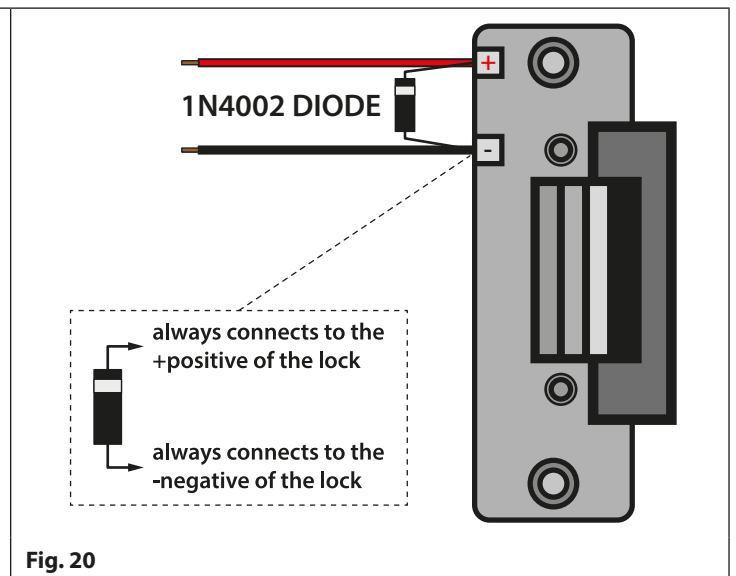
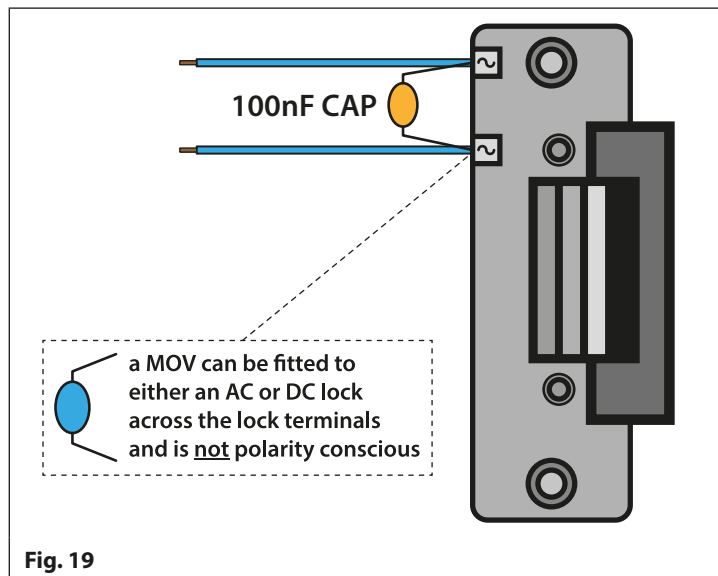
- Check that all components are free from damage before installing (**do not proceed with installation in the event of damage**).
- Keep all packaging away from children (**please dispose of any excess waste and packaging responsibly**).
- **Do not obstruct** the ventilation openings or slots on any of the devices.
- All connections to mains voltages must be made to the current national standards (I.E.E. wiring regulations for the UK or the appropriate standards of your country if installing overseas).
- Install an appropriate fused spur or isolation switch to isolate the mains.
- Isolate the mains before carrying out any maintenance work on the system.
- Avoid water ingress into the rear of the module, always seal the module frame after installation using a suitable silicon based sealant.
- All intercom and access control cables must be routed separately from the mains (ideally in a separate cable tray or duct).



## General Directions for Installation

### LOCK RELEASE WIRING AND BACK EMF PROTECTION

When fitting an electric lock release back EMF protection will be required. If fitting an AC lock release then a 100nF ceramic disc capacitor should be fitted across the terminals of the lock, shown in **Fig.19**. If fitting a DC lock release (fail secure or fail safe) then a 1N4002 diode should be fitted across the terminals on the lock, shown in **Fig.20**.



If a 100nF ceramic disc capacitor or a 1N4002 diode are not available then a 14 - 20V MOV (metal oxide varistor) can be fitted across the lock terminals instead (refer to **Fig.19** above) and can be fitted on both an AC and DC lock. Connection examples can also be seen on the various wiring diagrams on pages 10 to 14.

### CONNECTION TO MAINS, SAFETY AND GUIDANCE NOTES

**⚠ IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMMENCING WITH THE INSTALLATION.**

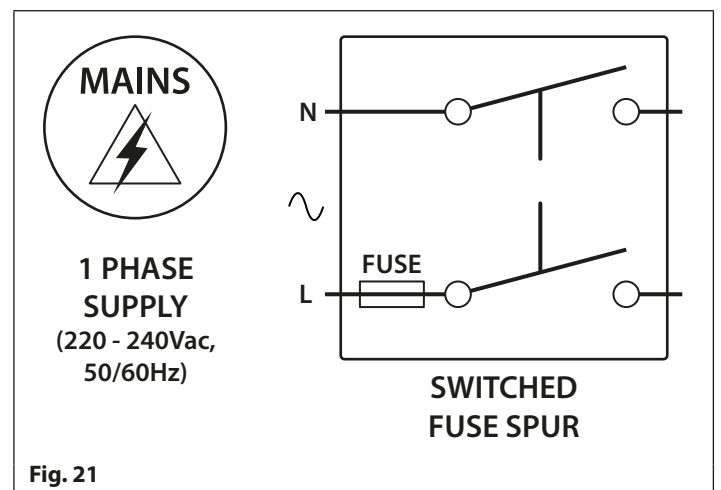
**⚠ IMPORTANT: IT IS RECOMMENDED THAT ANY CABLING AND VIDEX PRODUCTS BE INSTALLED BY A COMPETENT AND QUALIFIED ELECTRICIAN, SECURITY INSTALLATION SPECIALIST OR COMMUNICATIONS ENGINEER.**

- **DO NOT** install any Videx product in areas where the following may be present or occur:
- Excessive oil or a grease laden atmosphere.
- Corrosive or flammable gases, liquids or vapours.
- Possible obstructions which would prevent or hinder the access and/or removal of the Videx product.

### MAINS CONNECTION

The system **MUST** be installed in accordance with the current I.E.E. regulations (in particular I.E.E. Wiring regulations BS7671 for the UK), or the appropriate standards of your country if installing overseas, in particular Videx recommends:

- Connecting the system to the mains through an all-pole circuit breaker (refer to **Fig.21**) which shall have contact separation of at least 3mm in each pole and shall disconnect all poles simultaneously.
- That the all-pole circuit breaker shall be placed in such a way to allow for easy access and the switch shall remain readily operable.
- Ensuring that the mains supply (Voltage, Frequency and Phase) complies with the product rating label (this is usually located on the top side of the power supply).
- Isolating the mains before carrying out any maintenance work on the system.

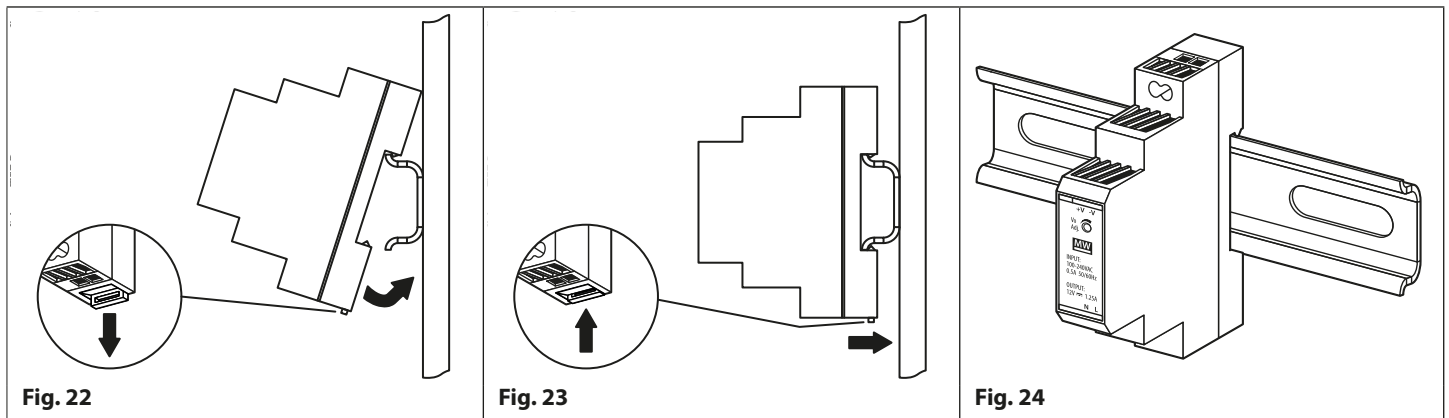


## General Directions for Installation

### POWER SUPPLY INSTALLATION

Follow the steps below when fitting the HDR-15-12 (12Vdc 1.25A) power supply.

- Fix the power supply to a DIN rail (following **Fig.22**, **Fig.23** and **Fig.24**).
- Switch **OFF** the mains using the circuit breaker (mentioned previously) and then make the connections as required shown on the various wiring diagrams throughout this manual (pages 10 - 14).
- Check the connections and secure the wires into the terminals ensuring that the low voltage (signal) cables are routed separately from the high voltage (mains) cables.
- If applicable replace the terminal covers and fix them back into place using the relevant screws.
- When all connections are made restore the mains supply.



### MOUNTING THE ART.2270 GSM MODULE

The Art.2270 GSM module can also be mounted following the same instructions for mounting a DIN type power supply (described above following **Fig.22**, **Fig.23** and **Fig.24**) and then making the necessary terminal connections shown in the wiring diagrams on pages 10 -14 (depending on the system setup and configuration).

**IMPORTANT NOTE:** When fitting the SIM card into the GSM module the module itself must be fitted to the DIN rail as described above first. Once mounted on the DIN rail the top cover can be removed by unscrewing the 4 retaining screws (located in each corner) to gain access to the SIM card holder pcb. Also refer to Fitting the SIM & Connecting Power notes on page 23.

# Fitting the SIM & Connecting Power

## FITTING THE SIM CARD AND CONNECTING THE POWER TO THE ART.2270 GSM MODULE

After installing the power supply, antenna, lock output and any other devices required (following the wiring diagrams on pages 10 - 14) and before powering the system up, a registered SIM card must be fitted into the SIM holder on the internal top pcb of the GSM module (refer to notes on page 22 to gain access to the SIM card holder). A SIM card from most network providers can be used, also refer to notes on SIM card selection on pages 4 and 5. Follow the steps below to insert the SIM card.

1. First remove the top cover of the Art.2270 module (as described on page 22) to gain access to the SIM holder pcb.
2. On the SIM holder pcb, slide the SIM holder to the right until it 'clicks', as shown in **Fig.25**.
3. The SIM holder is hinged and will open out to the right, see **Fig.26**.
4. Place the SIM card into the holder (it will only fit one way, see **Fig.27**) and fold the holder back down, see **Fig.28**.
5. Slide the SIM holder back to the left until it 'clicks', see **Fig.29**.
6. Once the SIM is in place make any other necessary terminal connections on the GSM module that may be required.
7. Connect the Art.432 GSM antenna and then connect the 12Vdc power supply wires but **DO NOT** power up the system yet.
8. Follow the initialisation process for the Art.2270 GSM module described below.

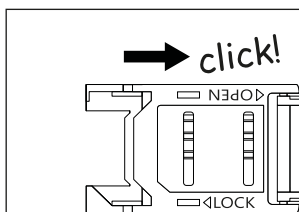


Fig. 25

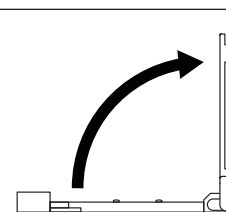


Fig. 26

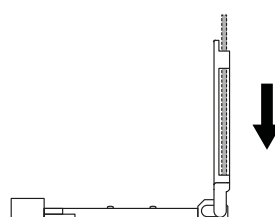


Fig. 27

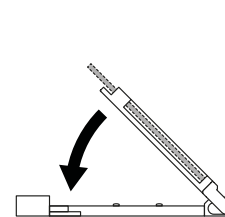


Fig. 28

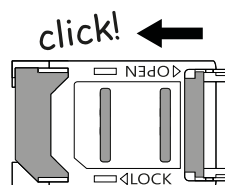


Fig. 29

## POWER UP INITIALISATION SEQUENCE FOR THE ART.2270 GSM MODULE

The Art.2270 GSM module requires approximately 20 seconds to initialise properly. We recommend **NOT** sending SMS messages or pressing buttons on the intercom panel during this time.

1. First check all the connections have been made correctly and then power up the system.
2. The red LED (LED1) will switch ON for approximately 5 seconds, as shown in **Fig.30**.
3. After this the red LED (LED1) will continue to flash while it registers with the chosen network, as shown in **Fig.31**.
4. After a further delay the red LED (LED1) will stop flashing, as shown in **Fig.32**, to indicate that the GSM module has registered with the network and is ready to begin programming.

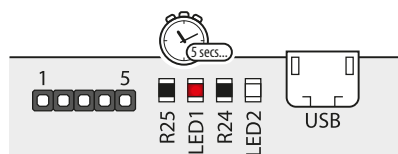


Fig. 30



Fig. 31



Fig. 32

# Reset Procedure

## RESETTING THE ART.2270 GSM MODULE TO FACTORY DEFAULTS

There are two reset options for the GSM module. The first will reset the master code only (any programming will be retained in the GSM module) and the second will reset everything and clear all stored telephone numbers and reset all settings.

### RESETTING THE MASTER CODE TO 1111 (4x1)

1. Ensure the power is switched **OFF** to the GSM module;
2. Short out the auxiliary terminal **A1** to the - terminal with a piece of link wire, see **Fig.33**;
3. Switch the power back **ON** to the GSM module, the red LED (LED1) will switch **ON** for approximately 8 seconds;
4. The red LED (LED1) will then start to flash for approximately 60 seconds while it resets the master code back to **1111 (4x1)**, as shown in **Fig.34**;
5. After the 60 seconds is up the red LED (LED1) will stop flashing, remove the short between **A1** and the - terminal. The master code has been reset back to 1111 (4x1) and the GSM module is ready for programming.

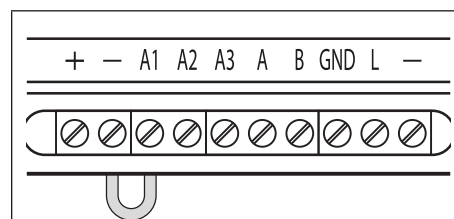
**IMPORTANT NOTE:** When a master code reset is performed on the GSM module it will only reset the 4 digit programming code back to factory default 1111, all the settings and programmed information (telephone numbers etc.) will still be stored in the GSM module. No attempt should be made to remove the short before the red LED (LED1) stops flashing otherwise the master code reset will not work.

### FULL SYSTEM RESET

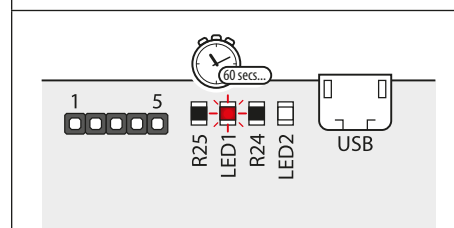
1. Ensure the power is switched **OFF** to the GSM module;
2. Short out the auxiliary terminals **A2** and **A3** to the - terminal with a piece of link wire, see **Fig.35**;
3. Switch the power back **ON** to the GSM module, initially the red LED (LED1) will switch **ON** for approximately 8 seconds. The red LED (LED1) will then start to flash, as shown in **Fig.36**;
4. After approximately 12 seconds both the red LED (LED1) and the green LED (LED2) will switch **ON** for approximately 20 seconds or so while the GSM module resets back to factory default, as shown in **Fig.37**;
5. The red LED (LED1) will start to flash again while the green LED (LED2) stays **ON**, for a further 5 seconds, as shown in **Fig.38**;
6. After the 5 seconds is up the red LED (LED1) will stop flashing, simultaneously the green LED (LED2) will switch **OFF** to indicate that the GSM module has been reset back to the factory default;
7. After the reset remove the shorts between the **A2, A3** and the - terminals. The GSM module is ready for programming.

**IMPORTANT NOTE:** When a full system reset is performed on the GSM module it will default any settings back to factory presets and delete all the user information (telephone numbers, dial to open numbers etc.). This method of reset clears all the programming in the GSM module so it is advisable to save or record the information beforehand.

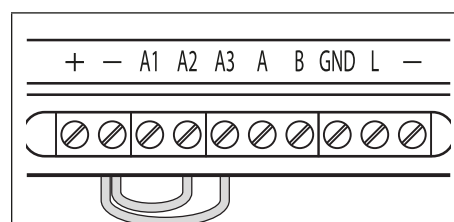
If a high volume of information is stored in the GSM module it can be downloaded and saved using the GSMSK PC software, more details on how to do this can be found in the following manual: GSMSK\_66251720\_EN\_V2-0 (or later).



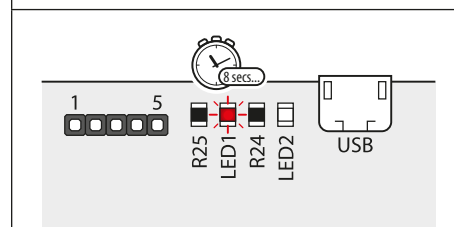
**Fig. 33**



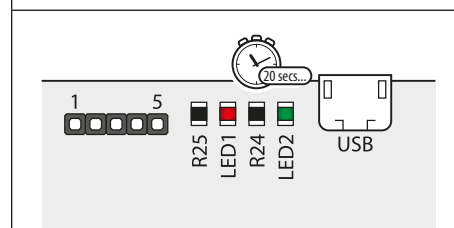
**Fig. 34**



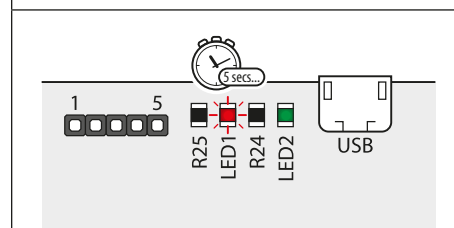
**Fig. 35**



**Fig. 36**



**Fig. 37**



**Fig. 38**

# Programming the GSM Module

## PROGRAMMING THE GSM MODULE

Programming the GSM module can be carried out in two ways, either by sending text (SMS) messages or by using the GSMSK PC software (ver 4.0.0.0 or later), also refer to the programming manual **GSMSK\_66251720-EN\_V2-0** (or later).

**IMPORTANT NOTE:** When you are required to use " in a text message it is very important to use the correct symbol and not for example ' (or two ' single apostrophes side by side which you will see look the same but will be interpreted differently by the GSM module).

## PROGRAMMING BY TEXT MESSAGE

Programming by text message is a simple way to customise the settings of the GSM module and add or delete telephone numbers. If you have a large number of telephone numbers to enter you may find programming easier with the GSMSK PC software. Simply send texts in the following format shown below to the telephone number of the SIM within the GSM module:

**<4 DIGIT CODE> <3 DIGIT FUNCTION CODE> <OPTIONAL DATA> <OPTIONAL ?>**

### 4 DIGIT CODE

This code prevents unauthorised access to the programmable features of the system. The code must be four digits long, but can be any combination using digits 0 – 9. The default code is 1111 and will be used for all examples in this manual.

### 3 DIGIT FUNCTION CODE

The 3 digit function code identifies the programmable feature to be changed. The code must be in capital letters. The following table lists the available codes.

DESCRIPTION	CODE	EXAMPLE	SETTINGS	DEFAULT	PAGE
Store a primary telephone no.	STN	1111STNnnn"01912243174"	nnn = 001 - 180	n/a	27
Store divert 1 telephone no.	STD	1111STDnnn"01912241559"	nnn = 001 - 180	n/a	27
Store divert 2 telephone no.	STE	1111STEnnn"01912243678"	nnn = 001 - 180	n/a	27
Store divert 3 telephone no.	STF	1111STFnnn"01912245326"	nnn = 001 - 180	n/a	27
Store a primary telephone no. and divert no's in a single text message	STN	1111STNnnn"pn","d1","d2","d3" 1111STNnnn"01912243174", "01912241559","01912243678", "01912245326"	nnn = 001 - 180 pn = primary no. d1 = divert 1 no. d2 = divert 2 no. d3 = divert 3 no.	n/a	27 - 28
Store dial to open no. (relay 1)	S1R	1111S1Rnnn"07771234567"	nnn = 000 - 999	n/a	28
Store dial to open no. (relay 2)	S2R	1111S2Rnnn"07892456789"	nnn = 000 - 999	n/a	28
Store dial to open no. (relay 3)	S3R	1111S3Rnnn"07983123456"	nnn = 000 - 999	n/a	28
Store up to 5 dial to open no's (DTO) for relay 1, 2 or 3 in a single text message to the next available location	S1R S2R S3R	1111S1R"n1","n2","n3","n4","n5" <b>or</b> 1111S2R"n1","n2","n3","n4","n5" <b>or</b> 1111S3R"n1","n2","n3","n4","n5"	nnn = optional from 000 - 999 S1R = relay 1 S2R = relay 2 S3R = relay 3 n1 = 1st DTO n2 = 2nd DTO n3 = 3rd DTO n4 = 4th DTO n5 = 5th DTO	n/a	28 - 30
Using access levels with dial to open numbers ( <b>relay 1 only</b> )	S1R	1111S1R"n1"An,"n2"An,"n3"An,"n4"An,"n5"An	An = A0 - A9 n1 = 1st DTO n2 = 2nd DTO n3 = 3rd DTO n4 = 4th DTO n5 = 5th DTO	n/a	30
Delete a dial to open no. without knowing it's location	DET	1111DET"01912243174"	n/a	n/a	30 - 31
Delay before call time	DCT	1111DCTnnn	nnn = 000 - 255	000 (disabled)	31
Set call time	SPT	1111SPTnnn	nnn = 000 - 255	040 (40s)	31
Set relay 1 time	R1T	1111R1Tnnn	nnn = 000 - 255	005 (5s)	31
Set relay 2 time	R2T	1111R2Tnnn	nnn = 000 - 255	005 (5s)	31
Set relay 3 time	R3T	1111R3Tnnn	nnn = 000 - 255	005 (5s)	31
Set auxiliary 1 mode	A1M	1111A1Mnnn	nnn = 000 - 006	000	31 - 32

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Set auxiliary 2 mode	<b>A2M</b>	1111A2Mnnn	nnn = 000 - 006	000	31 - 32
Set auxiliary 3 mode	<b>A3M</b>	1111A3Mnnn	nnn = 000 - 006	000	31 - 32
Keep connection facility	<b>NOD</b>	1111NODnnn	nnn = 000 - 099	000 (disabled)	32
Divert to next no. time	<b>DIT</b>	1111DITnnn	nnn = 001 - 255	15 (15s)	32
Check GSM signal strength	<b>SIG</b>	1111SIG?	n/a	n/a	32
Check software version	<b>VER</b>	1111VER?	n/a	n/a	33
Store SMS message for A1	<b>S1S</b>	1111S1S"AuxTriggered"	n/a	AuxTriggered	33
Store SMS message for A2	<b>S2S</b>	1111S2S"AuxTriggered"	n/a	AuxTriggered	33
Store SMS message for A3	<b>S3S</b>	1111S3S"AuxTriggered"	n/a	AuxTriggered	33
Change 4 digit code	<b>CDE</b>	1111CDE1234	Any 4 digits	1111	33
Trigger the relay 1	<b>RL1</b>	1111RL1	n/a	n/a	33
Trigger the relay 2	<b>RL2</b>	1111RL2	n/a	n/a	33
Trigger the relay 3	<b>RL3</b>	1111RL3	n/a	n/a	33
Store balance check dial string	<b>SDL</b>	1111SDL"*#1345#"	n/a	n/a	33
Check credit balance	<b>BAL</b>	1111BAL?	n/a	n/a	33 - 34
Store master telephone no.	<b>STM</b>	1111STM"07771234567"	n/a	n/a	34
Store timeband for phone ID's to be active for	<b>TBA</b>	1111TBA"HHMMHHMM",days	HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	default = 00002359 AD (all days)	34 - 35
Store timeband(s) for dial to open numbers ( <b>relay 1 only</b> ) to be active for	<b>ATB</b>	1111ATBn"HHMMHHMM",days	HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	n/a	35 - 36
Store access levels for dial to open numbers ( <b>relay 1 only</b> ) to be active for	<b>ACC</b>	1111ACCn"ttttttttt"	n = 0 - 9 each t = 1 or 0	n/a	36
Free access timebands including output setup ( <b>RLY1</b> , <b>RLY2</b> or <b>RLY3</b> ) with latch or momentary trigger	<b>FRE</b>	1111FREn"HHMMHHMM",days:m:o	n = 0 - 9 HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE m = L or M o = R1, R2 or R3	n/a	36 - 37
Clear all free access timebands	<b>FRD</b>	1111FRD?	n/a	n/a	37
Check/Set date & time	<b>CLK</b>	1111CLK"yy/mm/dd,hh:mm"?	yy/mm/dd,hh:mm	n/a	37
Send tone after answer (But 1)	<b>DTP</b>	1111DTPn	n = 0 - 9 or X	X	37 - 38
Send tone after answer (Div 1)	<b>DTD</b>	1111DTDn	n = 0 - 9 or X	X	37 - 38
Send DTMF tone delay	<b>DTT</b>	1111DTTnnn	nnn = 001 - 012	003	37 - 38
Enable dial 0 on answer function	<b>EDZ</b>	1111EDZnnn	nnn = 000 or 001	000	38
Enable # (hash) function	<b>ED#</b>	1111ED#nnn	nnn = 000 or 001	000	38
Find a dial to open (DTO) number	<b>FDT</b>	1111FDT"number or ends in"?	n/a	n/a	38 - 39
First phone ID to respond to	<b>SID</b>	1111SIDnnn	nnn = 001 - 180	150	39
Last phone ID to respond to	<b>EID</b>	1111EIDnnn	nnn = 001 - 180	150	39
End on last divert	<b>EOD</b>	1111EODnnn	nnn = 000 or 001	n/a	39
Shutdown and Restart	<b>RBT</b>	1111RBT	n/a	n/a	40
Initiate a special command	<b>PRG</b>	1111PRG(command)	AT commands	n/a	40
AT command to send at start up	<b>AT1</b>	1111AT1"ATxxxxxx"?	Any AT command	n/a	40
AT command to send at start up	<b>AT2</b>	1111AT2"ATxxxxxx"?	Any AT command	n/a	40
AT command to send at start up	<b>AT3</b>	1111AT3"ATxxxxxx"?	Any AT command	n/a	40
Obtain the GSM's IMEI number	<b>IME</b>	1111IME?	n/a	n/a	40
Unlatch prevention feature	<b>LLA</b>	1111LLAnnn?	nnn = 000 or 001	000	40



## Programming the GSM Module

### OPTIONAL DATA

The optional data will vary depending on the command used. It may be a telephone number, a time setting or may not be used at all. For more information refer to the following command settings.

### OPTIONAL ?

Most of the commands support the ? feature. When this is added to the end of the text message, a confirmation text message will be sent back to the sender indicating the new data has been received and stored.

When sending text messages there may be a delay from when you send the message to when it is received by the GSM module depending on how congested the network is.

### STORING TELEPHONE NUMBERS (STN, STD, STE AND STF) USING PHONE ID'S

Telephone numbers are programmed using phone ID's instead of call buttons. Phone ID's from 1 up to 180 can be programmed (in the same way that Videx audio and videophones are programmed on the VX2200 system). Each phone ID programmed can call up to four telephone numbers e.g. phone ID.1 can call a primary telephone number and up to 3 divert numbers (if the first is busy or not answered in a certain time it can call a 2nd, 3rd and 4th number if the divert facility is setup). The STN code stores the first number called (primary telephone number) when the relevant call button on the intercom panel is pressed. The STD, STE and STF codes stores the diverted telephone numbers if the first is busy or not answered (the GSM module will divert to the 2nd number then divert to the 3rd number and finally the 4th number). The messages to store/check numbers are as follows (replace STN with STD, STE or STF when storing/checking divert numbers).

1111STNnnn"yyyyyyyyyy"	Store the primary telephone number yyyyyyyyyy in phone ID position nnn.
1111STNnnn"yyyyyyyyyy"?	Store the telephone number yyyyyyyyyy in phone ID position nnn and send a confirmation text message to confirm storage of new number.
1111STNnnn?	Query the telephone number stored in phone ID location nnn. A text message will be sent to the sender with the stored number for that phone ID location.
1111STNnnn""	Delete the telephone number stored in phone ID location nnn.
1111STNnnn""?	Delete the telephone number stored in phone ID location nnn. A text message will be sent to the sender with the delete confirmation for that phone ID location.

nnn is the phone ID number between 001 and 180. The telephone number y can be a maximum of 30 digits. For example: to store the number 01912243174 for phone ID.5 and three divert numbers (if that one is not answered or busy) of 01912241558, 07771234567 and 01912241559 respectively, the following SMS messages would be sent to the GSM module:

1111STN005"01912243174"

1111STD005"01912241558"

1111STE005"07771234567"

1111STF005"01912241559"

**IMPORTANT NOTE:** When sending the command 1111STNnnn? to query the telephone number stored for the phone ID position the GSM module will reply with the list of all the numbers stored for that phone ID position i.e. the primary number and the 3 divert numbers as shown in the example on page 28\*.

When sending the command 1111STDnnn? , 1111STEnnn? or 1111STFnnn? to query the individual divert numbers stored for the phone ID position the GSM module will reply with only the divert number stored for the position, e.g. for phone ID.1 with divert 2 number as 07771234567 the command sent to the GSM module would be: 1111STE001? and it would reply with:

MEM (DIVERT 2)

001 = 0771234567

OK VIDEX GSM

### STORING THE PRIMARY AND DIVERT NUMBERS IN A SINGLE TEXT MESSAGE (USING STN)

It is also possible to program a primary telephone number and three divert numbers for a particular phone ID in a single text message instead of using the individual programming codes STD (1st divert), STE (2nd divert) and STF (3rd divert). Expanding on the STN programming command the text messages used to store/check the primary number and divert numbers are as follows.

1111STNnnn"pn" (or 1111STNnnn"yyyyyyyyyy") 1111STNnnn"pn","d1" 1111STNnnn"pn","d1","d2" 1111STNnnn"pn","d1","d2","d3"	Store the primary number and the respective divert numbers in phone ID position nnn, (where pn = primary number, d1= 1st divert, d2 = 2nd divert, d3 = 3rd divert and nnn = phone ID 001 - 180).
1111STNnnn"pn"? (or 1111STNnnn"yyyyyyyyyy") 1111STNnnn"pn","d1"? 1111STNnnn"pn","d1","d2"? 1111STNnnn"pn","d1","d2","d3"?	Store the primary number and the respective divert numbers in phone ID position nnn, (where pn = primary number, d1= 1st divert, d2 = 2nd divert, d3 = 3rd divert and nnn = phone ID 001 - 180), also send confirmation of stored numbers for that location.

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Using the same telephone numbers from the previous example: to store the primary number 01912243174 (pn) for phone ID.5 and three divert numbers of 01912241558 (d1), 07771234567 (d2) and 01912241559 (d3) respectively, the following single text message would be sent to the GSM module instead of sending 4 individual text messages:

**1111STN005"01912243174","01912241558","07771234567","01912241559"**

Similarly if only the primary number (pn) and 1st divert number (d1) were only required for phone ID.5 the following message would be sent:

**1111STN005"01912243174","01912241558"**

Remember an optional ? can be included at the end of the message to receive confirmation of the stored numbers, like so:

**1111STN005"01912243174","01912241558","07771234567","01912241559"?**

\* The following reply will be received from the GSM module:

**MEM 005 = 01912243174  
 MEM (DIVERT 1) 005 = 01912241558  
 MEM (DIVERT 2) 005 = 07771234567  
 MEM (DIVERT 3) 005 = 01912241559  
 OK VIDEX GSM**

Remember to include " and , where appropriate.

### STORING A TELEPHONE NUMBER FOR DIAL TO OPEN RELEASE FOR RELAYS 1, 2 AND 3 (S1R, S2R AND S3R)

The dial to open release allows users to activate the relevant relay (1, 2 or 3) simply by dialling the telephone number of the SIM in the GSM module. The GSM module will check the callers number when it receives a call and if it matches a number on one of the 3 dial to open lists, it will clear the call down (avoiding the caller being charged for the call) and will activate the relevant relay (1, 2 or 3) for the programmed relay time (i.e. dial to open list 1 will trigger relay 1 etc.). Up to 1000 numbers can be stored for each relay (1, 2 or 3).

The programming commands to check, store or delete numbers are as follows (replace S1R with S2R or S3R when storing/checking dial to open numbers for relays 2 and 3 respectively).

<b>1111S1Rnnn"yyyyyyyyyy"</b>	Store the telephone number yyyyyyyyyy in position nnn, where nnn = 000 - 999.
<b>1111S1Rnnn"yyyyyyyyyy"?</b>	Store the telephone number yyyyyyyyyy in position nnn, where nnn = 000 - 999, and send a confirmation text message to confirm storage of new number.
<b>1111S1Rnnn?</b>	Query the telephone number stored in location nnn, where nnn = 000 - 999. A text message will be sent to the sender with the stored number for that location.
<b>1111S1Rnnn""</b>	Delete the telephone number stored in location nnn, where nnn = 000 - 999.
<b>1111S1Rnnn""?</b>	Delete and confirm deletion of a telephone number in location nnn, where nnn = 000 - 999.

**IMPORTANT NOTE:** It is important to switch OFF voicemail and automatic SMS features on the SIM card in the GSM module when using this feature. Please also note it is important that the number stored, when dialling in to release the door/gate, must have any "caller ID" or "withheld number" function switched OFF on the telephone/mobile that is making the call to the GSM module. If this feature is not switched OFF the GSM module will not recognise the caller's number and simply end the call.

### STORING UP TO 5 DIAL TO OPEN NUMBERS IN A SINGLE TEXT MESSAGE TO THE NEXT FREE LOCATION (S1R, S2R & S3R)

It is also possible to program up to a maximum of 5 dial to open numbers (DTO) at a time to the next available memory locations and in a single text message instead of programming them individually.

Expanding on the existing S1R, S2R and S3R programming commands (for the respective relay 1, 2 or 3) the text messages used to store/check the dial to open numbers are as follows (remembering to replace S1R with S2R or S3R when storing/checking dial to open numbers for relays 2 and 3 respectively).

<b>1111S1R"n1"          1111S1R"n1","n2"          1111S1R"n1","n2","n3"          1111S1R"n1","n2","n3","n4"          1111S1R"n1","n2","n3","n4","n5"</b>	Store the dial to open numbers (DTO) to the next available memory location(s) for relay 1 (or relay 2 or relay 3), where n1 = 1st DTO number, n2 = 2nd DTO number, n3 = 3rd DTO number, n4 = 4th DTO number, n5 = 5th DTO number.
<b>1111S1R"n1" ?          1111S1R"n1","n2"?          1111S1R"n1","n2","n3"?          1111S1R"n1","n2","n3","n4"?          1111S1R"n1","n2","n3","n4","n5"?</b>	Store the dial to open numbers (DTO) to the next available memory location(s) for relay 1 (or relay 2 or relay 3), where n1 = 1st DTO number, n2 = 2nd DTO number, n3 = 3rd DTO number, n4 = 4th DTO number, n5 = 5th DTO number, also send confirmation text of DTO numbers and locations of where they are stored.

For example to store the following 5 dial to open numbers (DTO): 01912243174 (n1), 01912241558 (n2), 07771234567 (n3),

## Programming the GSM Module

01912241559 (n4) and 07897123456 (n5) respectively to start from the next available memory location for relay 1, the following single text message would be sent to the GSM module instead of sending 5 individual text messages:

**1111S1R"01912243174","01912241558","07771234567","01912241559","07897123456"**

Similarly if only 3 dial to open numbers (DTO) n1, n2 and n3 were required, the following message would be sent:

**1111S1R"01912243174","01912241558","07771234567"**

Remember an optional ? can be included at the end of the message to receive confirmation of the stored numbers, like so:

**1111S1R"01912243174","01912241558","07771234567","01912241559","07897123456"?**

The following reply will be received from the GSM PRO:

**MEM OPEN 003 = 01912243174  
MEM OPEN 004 = 01912241558  
MEM OPEN 005 = 07771234567  
MEM OPEN 006 = 01912241559  
MEM OPEN 007 = 07897123456  
OK VIDEX GSM**

Remember to include " and , where appropriate. In the example above if locations 001 and 002, for relay 1, already had numbers programmed then the dial to open numbers (DTO) n1, n2, n3, n4 and n5 would be stored in the GSM module starting from location 003 up to 007.

**IMPORTANT NOTE:** It should be noted that when programming multiple dial to open numbers (DTO) using this command the GSM module starts checking for free memory locations from 001 to see if there is enough available space to store them. So if the number of DTO numbers being programmed is greater than the number of available locations the GSM module will skip to find the next available location that has enough space to store the numbers.

For example: for relay 2 if the DTO locations from 001 to 003 and locations from 006 to 008 are already occupied with DTO numbers, location 004, location 005 are available and locations from 009 onwards are available (refer to table on the right). If the intention is to store three DTO numbers: 01912243174 (n1), 01912241558 (n2), 07771234567 (n3). The following text message would be sent to the GSM module:

**1111S2R"01912243174","01912241558","07771234567"?**

The GSM module will reply with the following text:

**MEM OPEN 009 = 01912243174  
MEM OPEN 010 = 01912241558  
MEM OPEN 011 = 07771234567  
OK VIDEX GSM**

DTO location (relay 2)	Location status (free/occupied)
001	occupied location
002	occupied location
003	occupied location
004	free location
005	free location
006	occupied location
007	occupied location
008	occupied location
009	free location
010	free location
011	free location

In the example above although the DTO locations 004 and 005 are available the programming command sent to the GSM module is to store three DTO numbers. As the quantity of DTO numbers to be stored is greater than the number of memory locations available from location 004 the GSM module will look for the next set of free locations that is able to accommodate the three DTO numbers. So in this case the GSM module will bypass locations 004 and 005 as there isn't sufficient space to store the three DTO numbers, it will also bypass locations 006, 007 and 008 as these locations are already occupied. However the locations from 009 onwards are free to use so the GSM module will store the first DTO number (n1) in location 009 and then the next DTO number (n2) in location 010 and so on.

**IMPORTANT NOTE:** It is also possible that when storing multiple DTO numbers using the S1R, S2R or S3R code a start location, nnn, can be included in the programming command i.e. 1111S1Rnnn"n1","n2","n3","n4","n5". However when a start location is included, while the GSM module will store the DTO numbers from this location, any memory location after it that already has a DTO number stored will be overwritten with the new DTO number.

Using the same details from the previous example: for relay 2 the DTO locations from 001 to 003 and 006 to 008 are already occupied with DTO numbers, location 004 and 005 are available. Locations from 009 onwards are also available (refer to previous table). If the intention is to store the following three DTO numbers: 01912243174 (n1), 01912241558 (n2), 07771234567 (n3) starting from location 004. The following text message would be sent to the GSM module:

**1111S2R004"01912243174","01912241558","07771234567"?**

The GSM module will reply with the following text:

**MEM OPEN 004 = 01912243174  
MEM OPEN 005 = 01912241558**

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MEM OPEN 006 = 07771234567  
 OK VIDEX GSM

In this example the 1st and 2nd DTO numbers 01912243174 (n1) and 01912241558 (n2) would be stored in the available locations 004 and 005 as expected, however the 3rd DTO number 07771234567 (n3) would overwrite the number that was already stored in location 006.

### USING ACCESS LEVELS WITH DIAL TO OPEN NUMBERS, RELAY 1 ONLY (S1R)

It is also possible to assign access levels (refer to **ACC** and **ATB** programming notes on pages 35 and 36) to the dial to open numbers (for relay 1 only) using the S1R programming command (also see **S1R** programming notes described on the previous pages). An access level can be assigned to a single DTO number or to each individual DTO number when programming multiple DTO numbers in a single text.

Following the format of the S1R programming command the following text messages can be used to store dial to open numbers with access levels assigned to them and store them in the next available memory locations.

1111S1R"n1"An 1111S1R"n1"An,"n2"An 1111S1R"n1"An,"n2"An,"n3"An 1111S1R"n1"An,"n2"An,"n3"An,"n4"An 1111S1R"n1"An,"n2"An,"n3"An,"n4"An,"n5"An	Store the dial to open number(s) DTO for relay 1 to the next available memory location(s), where n1 = 1st DTO number, n2 = 2nd DTO number, n3 = 3rd DTO number, n4 = 4th DTO number, n5 = 5th DTO number and assign an access level, where An = A0 - A9.
1111S1R"n1"An? 1111S1R"n1"An,"n2"An? 1111S1R"n1"An,"n2"An,"n3"An? 1111S1R"n1"An,"n2"An,"n3"An,"n4"An? 1111S1R"n1"An,"n2"An,"n3"An,"n4"An,"n5"An?	Store the dial to open number(s) DTO for relay 1 to the next available memory location(s), where n1 = 1st DTO number, n2 = 2nd DTO number, n3 = 3rd DTO number, n4 = 4th DTO number, n5 = 5th DTO number and assign an access level, where An = A0 - A9, also send confirmation text of DTO numbers, locations of where they are stored and the access level assigned.

**Example:** If memory locations 000 - 003 are already occupied with DTO numbers and following the same principle of storing the DTO numbers in the next available location using the appropriate S1R programming command shown in the table above. Then in order to store the 3 dial to open numbers: 01912243174 (n1), 01912241558 (n2), 07771234567 (n3) with the following access levels: A3 for n1, A2 for n2 and A1 for n3 respectively the following text can then be sent to the GSM module to program the DTO numbers and access levels:

1111S1R"01912243174"A3,"01912241558"A2,"07771234567"A1?

Including a ? at the end of the command the GSM module will reply with the following text:

MEM OPEN 004 = 01912243174,A3  
 MEM OPEN 005 = 01912241558,A2  
 MEM OPEN 006 = 07771234567,A1  
 OK VIDEX GSM

In the example the DTO numbers are stored from memory location 004 onwards as this is the next available location and the access level for each DTO number is shown after the telephone number being stored.

### DELETE A DIAL TO OPEN NUMBER WITHOUT KNOWING IT'S LOCATION (DET)

Although a dial to open number (DTO) can be deleted from the GSM module using the programming command **1111S1Rnnn""?**, **1111S2Rnnn""?** or **1111S3Rnnn""?**, it is also possible to delete a dial to open number if the location is not known. The following messages can be used to delete and confirm a dial to open number has been deleted from the GSM module.

1111DET"yyyyyyyyyyyy"	Delete the dial to open number yyyyyyyyyyyy (where yyyyyyyyyyyy DTO number).
1111DET"yyyyyyyyyyyy"?	Delete the dial to open number yyyyyyyyyyyy (where yyyyyyyyyyyy DTO number). Also send a confirmation text back to the sender.

Note that when using this command the full telephone number **will be required** otherwise the GSM PRO will respond with:

NOT FOUND  
 OK VIDEX GSM

**IMPORTANT NOTE:** When deleting a dial to open (DTO) number in this way if the same DTO number is stored for more than 1 relay (e.g. the DTO number is stored for all 3 relays) the GSM module will delete the number from the first list of dial to open numbers only (i.e. it will delete the DTO number for relay 1 only, S1R list) in this instance the same DTO number will still be stored for relay 2 (S2R list) and relay 3 (S3R list), this is because the GSM module searches for the DTO number through each dial to open list starting from the S1R list followed by the S2R list and so on, but can only delete one DTO number at a time. If the same DTO number is to be deleted from each dial to open list then the same programming command would need to be sent a further two times in order to ensure that the DTO number has been deleted from each dial to open list.

For example: the DTO number 07771234567 is stored to activate all 3 relays (i.e. it is stored on the S1R list, S2R list and S3R list). It is to be deleted completely from all DTO lists, however the location of where the number is stored is unknown. The following

## Programming the GSM Module

programming command can be sent:

**1111DET"07771234567"?**

The reply from the GSM module would be:

**DELETED  
OK VIDEX GSM**

At this point the DTO 07771234567 would be deleted from the S1R list only and therefore will no longer activate relay 1, however the same DTO number will still be able to activate relay 2 and 3. The same programming command would need to be sent twice again to ensure that the DTO number is also deleted from the S2R list and S3R list.

### DELAY BEFORE CALL TIME (DCT)

The delay call time is the time delay (from 0 up to 255 seconds) from when the call button is pressed on the intercom panel to when the GSM module starts to dial the programmed telephone number.

This feature is particularly useful if an apartment that has Videx audio or videophones is called from the intercom panel and a delay is required (to allow the user to answer the intercom call on the audio or videophone first before calling the programmed telephone number). In this example the phone ID addressing of the audio or videophones in the apartment is the same phone ID used to program the telephone number using the **STN** command. If the user answers the call from the intercom panel on the audio or videophones in the apartment, then the **DCT** time will not continue and the stored telephone number will not be called as the call to the apartment has already been answered. If, however, the user does not answer the call to the apartment on the audio or videophone the initial call to the apartment will continue until the end of the stored **DCT** time and then proceed to call the stored telephone number.

By default this feature is disabled (the time is set to 000 seconds). The following messages are used to enable and store/check the delay before call time.

<b>1111DCTnnn</b>	Store the delay before call time nnn, where nnn = time in seconds (000 = disabled or nnn = 001 - 255 seconds).
<b>1111DCTnnn?</b>	Store the delay before call time nnn, where nnn = time in seconds (000 = disabled or nnn = 001 - 255 seconds). Also send a confirmation text back to the sender.
<b>1111DCT?</b>	Query the current stored delay before time. A text message will be sent back to the sender showing the stored time.

### SET CALL TIME (SPT)

The call time is the maximum time in seconds that a call can last before the GSM module automatically clears the call down. The time can be from 1 second up to 255 seconds and begins from when the call button is pressed on the intercom panel. By default the call time is set to 40 seconds. The following messages are used to set/check the maximum call time.

<b>1111SPTnnn</b>	Store the call time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds).
<b>1111SPTnnn?</b>	Store the call time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds). Also send a confirmation text back to the sender.
<b>1111SPT?</b>	Query the current stored call time. A text message will be sent back to the sender showing the stored time..

### SET RELAY TIMES FOR RELAY 1, 2 AND 3 (R1T, R2T AND R3T)

The relay time for each relay (1, 2 and 3) can be set from 001 – 255 seconds or for latching mode set to 000. This is the time the relay will stay active for once triggered. By default each relay is set for 5 seconds. The following messages are used to set/check the relay times (replace R1T with R2T or R3T when setting/checking the time for relays 2 and 3 respectively).

<b>1111R1Tnnn</b>	Store the relay time nnn, where nnn = time in seconds (000 = latching or nnn = 001 - 255 seconds).
<b>1111R1Tnnn?</b>	Store the relay time nnn, where nnn = time in seconds (000 = latching or nnn = 001 - 255 seconds). Also send a confirmation text back to the sender.
<b>1111R1T?</b>	Query the current stored relay time. A text message will be sent back to the sender showing the stored relay time.

### SET AUXILIARY 1, 2 AND 3 MODES (A1M, A2M AND A3M, MODES 000 - 006)

There are seven auxiliary modes that can be set:

**Triggers respective relay 1, 2 or 3 (default): nnn = 000**

Relay 1 (2 or 3) will activate when auxiliary A1 (A2 or A3) is triggered for the programmed relay time. Refer to **Fig.10** on page 15.

**Send respective SMS1, SMS2 or SMS3 message to master number: nnn = 001**



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When auxiliary A1 (A2 or A3) is triggered send SMS1 (SMS2 or SMS3) message to the master number. Refer to **Fig.11** on page 15.

**The respective relay 1, 2 or 3 is triggered for duration of the call when a call is made: nnn = 002**

Relay 1 (2 or 3) will trigger for the duration of the call when a call is made from the intercom panel. Refer to **Fig.12** on page 16.

**The respective relay 1, 2 or 3 is triggered for the respective relay time when a call is made: nnn = 003**

Relay 1 (2 or 3) will trigger for the programmed relay time (R1T, R2T or R3T) when a call is made from the intercom panel. Refer to **Fig.13** on page 16.

**An apartment alarm on the databus (L and -) activates respective relay 1, 2 or 3 for the relay time: nnn = 004**

Relay 1 (2 or 3) will trigger for the programmed relay time (R1T, R2T or R3T) when an apartment alarm is recieved on the databus. Refer to **Fig.14** on page 17.

**An apartment alarm on the databus (L and -) sends respective SMS1, SMS2 or SMS3 message to master number: nnn = 005**

An SMS message (SMS1, SMS2 or SMS3) will be sent to the master number when an apartment alarm is recieved on the databus. Refer to **Fig.15** on page 17.

**Respective relay 1, 2 or 3 is triggered based on door ID setting on intercom panel: nnn = 006**

Relay 1 (2 or 3) will trigger for the programmed relay time (R1T, R2T or R3T) when the intercom panel door ID is set to door ID.1 (ID.2 or ID.3 respectively). Refer to **Fig.16** on page 18.

**IMPORTANT NOTE:** Mode 006 is only applicable for intercom panel door ID's 1, 2 and 3.

The following messages are used to store/check the auxiliary mode setting (replace A1M with A2M or A3M when setting/checking the modes for auxiliary 2 and 3 respectively).

1111A1Mnnn	Store auxiliary 1 mode nnn, where nnn = auxiliary mode 000 - 006.
1111A1Mnnn?	Store auxiliary 1 mode nnn, where nnn = auxiliary mode 000 - 006. Also send a confirmation text back to the sender.
1111A1M?	Query the current stored auxiliary 1 mode. A text message will be sent back to the sender showing the stored A1M mode.

### SET DAYS TO WAIT BEFORE MAKING A CALL (NOD)

In the event the GSM module is not used for long periods of time it could be possible that the network disconnects it. To prevent this from happening it is possible to program a time period in days (from 001 – 099 days or disabled 000) to wait before the module makes a short call to refresh the connection to the network. This time period is reset after each call is made on the system and will only happen if the full time period elapses without any incoming or outgoing calls. By default this feature is disabled.

1111NODnnn	Store the time period nnn = time in days (e.g. nnn = 007, time = 7 days).
1111NODnnn?	Store the time period nnn = time in days. Also send a confirmation text back to the sender.
1111NOD?	Query the current stored time period. A text message will be sent back to the sender showing the stored time.

### DIVERT TIME (DIT)

The divert time is the number of seconds to wait for a call to be answered before diverting to the 2nd, 3rd and 4th number. The default time is 15 seconds (the count down begins from when the call button is pressed on the intercom panel, but is refreshed when the telephone being called starts to ring) and can be set from 001 – 255 seconds. The following messages are used to set/check the divert time.

1111DITnnn	Store the divert time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds).
1111DITnnn?	Store the divert time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds). Also send a confirmation text back to the sender.
1111DIT?	Query the current stored divert time. A text message will be sent back to the sender showing the stored divert time.

### CHECK SIGNAL STRENGTH (SIG)

At any time the signal strength of the GSM module can be checked (also see notes on understanding the signal strength on page 44). It is advisable that when the Art.2270 GSM module is first setup and before any other programming is carried out to check the signal strength of the GSM module. If the signal strength is too low the GSM module may not operate properly, therefore the GSM antenna will need to be repositioned to increase the signal strength. Use the following command to check the signal strength.

1111SIG?	Check the signal strength of the GSM module and send a confirmation text back to the sender.
----------	--



## Programming the GSM Module

### CHECK SOFTWARE VERSION (VER)

It is possible to check the current version of software in the GSM module. This may be necessary to see if an update is required for any additional features or updates for the Art.2270 GSM module which may be included on later versions. Use the following command to check the software version.

1111VER?	Check the software version of the GSM module and send a confirmation text back to the sender.
----------	---

### STORE SMS MESSAGE FOR AUXILIARY 1, 2 OR 3 (S1S, S2S OR S3S)

The Art.2270 GSM module is able to send a customised SMS message (**S1S**, **S2S** or **S3S**) to the master telephone number when any of the 3 the auxiliary modes (**A1M**, **A2M** or **A3M**) is set to mode **001** or **005** (also refer to auxiliary mode set up on pages 31 - 32).

**Example 1:** when the auxiliary 1 mode **A1M** is set to **001** then **S1S** message will be sent to the stored master telephone number when auxiliary input **A1** is triggered (also refer to **Fig.11** on page 15).

**Example 2:** when the auxiliary 1 mode **A1M** is set to **005** then **S1S** message will be sent to the stored master telephone number when an apartment alarm signal is received on the databus **L** and - (also refer to **Fig.15** on page 17).

The following programming commands can be used to customise/change and check the **S1S** (**S2S** or **S3S**) message. Replace **S1S** with **S2S** or **S3S** when customising/checking the SMS messages for auxiliary 2 and 3 respectively.

1111S1S"AuxTriggered"	Change S1S message to AuxTriggered.
1111S1S"AuxTriggered"?	Change S1S message to AuxTriggered. Also send a confirmation text back to the sender.
1111S1S?	Query the current stored S1S message. A text message will be sent back to the sender showing the stored S1S message.

**IMPORTANT NOTE:** The SMS message can be a maximum of 32 characters long and cannot include spaces or " as part of the message.

### CHANGE THE FOUR DIGIT CODE (CDE)

The four digit programming code can be any combination of numbers between 0 - 9 but **must be** 4 digits long. The code allows access to the programming commands and is used when sending text messages to the GSM module. Use the following programming message to change the 4 digit code.

1111CDEnnnn	Change the 4 digit code to nnnn (where nnnn = new 4 digit code).
-------------	--

### TRIGGER RELAY 1, 2 OR 3 (RL1, RL2 OR RL3)

The 3 relays (1, 2 or 3) on the Art.2270 GSM module can be activated by sending the following text message and will activate the respective relay for the programmed relay time (**R1T**, **R2T** or **R3T** respectively). Replace **RL1** with **RL2** or **RL3** when triggering relay 2 or relay 3 respectively.

1111RL1	Operate relay 1 on the GSM module for the programmed R1T time.
1111RL1?	Operate relay 1 on the GSM module for the programmed R1T time. Also send a confirmation text back to the sender.

### STORE BALANCE CHECK DIAL STRING (SDL)

Several network providers offer the facility to check available balance on their pay as you go tariffs. For example, on Vodafone the string is **\*#1345#** and on O2 the string is **\*#10#**. Other networks may also have this feature. Because the GSM module will not know the details of the network provider's SIM card which you have inserted it will be necessary to store the correct string in order to use the credit balance check features.

1111SDL"*#1345#"	Store the balance check string for a Vodafone pay as you go.
1111SDL"*#10#"	Store the balance check string for an O <sup>2</sup> pay as you go.

**IMPORTANT NOTE:** Videx are only aware of the balance check dial string codes for the UK based network providers mentioned above and are correct at time of print. Check dial string codes for other networks are currently unavailable at this time. Please also note that this programming function is only applicable for pay as you go SIM cards.

### CHECK CREDIT BALANCE (BAL)

The balance can only be checked if the correct balance check string has previously been stored using the **SDL** code explained above. At any point the user will be able to send the following text message and the GSM module will reply with the current balance stored on the SIM card.

1111BAL?	Check current balance of the SIM in the GSM module and send a confirmation text back to the sender.
----------	---

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In addition to this feature the GSM module also has the facility to monitor the available credit and then text the user to inform them when the credit has fallen below £5.00, €5.00 or \$5.00. It will then remind the user with another text after every 5 calls until the credit has either increased or if it runs out.

To use this feature, the following settings must first be made:

A Pay As You Go SIM card from a provider that offers this service (Vodafone, O2) must be used.

The correct balance check string must be stored using the **SDL** code (see store balance check dial string notes above).

A mobile phone number that is to receive the 'balance low' text must be stored in the master telephone number location using the **STM** code (refer to store master telephone number feature below).

### STORE THE MASTER TELEPHONE NUMBER (STM)

The master telephone number is the number which will receive automatic balance updates when the balance gets low (if this feature is setup) and/or will receive the **S1S**, **S2S** or **S3S** messages if the auxiliary mode of the GSM module has been set to either mode **001** or **005** (also refer to set auxiliary 1, 2 and 3 modes on pages 31 - 32 and store SMS message for auxiliary 1, 2 or 3 on page 33). The master telephone number is also the number that will receive a call from the intercom panel if the timeband (**TBA**) feature has been setup to disable calls to the phone ID's (users 1 - 180), see timeband notes below. To store a master telephone number the following programming texts can be sent to the GSM module.

<b>1111STM"yyyyyyyyyy"</b>	Store the telephone number yyyyyyyyyy.
<b>1111STM"yyyyyyyyyy"?</b>	Store the telephone number yyyyyyyyyy and send a confirmation text back to the sender.
<b>1111STM?</b>	Query the master telephone number stored. A text message will be sent to the sender with the stored master number.
<b>1111STM""</b>	Delete the master telephone number stored.
<b>1111STM""?</b>	Delete the master telephone number stored and send a confirmation text back to the sender.

### STORE TIMEBAND FOR PHONE ID'S TO BE ACTIVE FOR (TBA)

**IMPORTANT NOTE:** This feature relies on the network providers time zone setting and also if they support NITZ (Network Identity and Time Zone). First check the time/date is correct by sending the SMS message **1111CLK?** (also refer to check intercoms time & date feature on page 37). If the time/date returned is incorrect, it maybe that they do not support it. The clock can be set manually, however any power cut will result in the time and date being lost unless battery backup is included.

The timeband feature allows the telephone calls to the users (1 - 180) to be disabled or diverted to the master telephone number (if a master telephone number has been stored, refer to **STM** notes above) outside a certain time window. For example, if the timeband is set from 6:00am to 11:30pm then the user will only receive calls between the hours of 06:00 in the morning until 23:30 at night. Remember to always use the 24hr clock notation and also ensure the **start** time is earlier than the **stop** time. The timeband can also be set for a specific day or days of the week to be active for by adding the day or days to the end of the programming command, see table below for the codes used for the days required.

Days				
<b>Mo</b> = Monday	<b>Tu</b> = Tuesday	<b>We</b> = Wednesday	<b>Th</b> = Thursday	<b>Fr</b> = Friday
<b>Sa</b> = Saturday	<b>Su</b> = Sunday	<b>AD</b> = All days	<b>WD</b> = Week days only	<b>WE</b> = Weekends only

When including the day or days in the command they must be separated using a comma , between the codes required, also refer to the examples below. Use the following text messages to store, query and delete the timeband.

<b>1111TBA"HHMMHHMM",days</b>	Store the time using this format. The first HHMM is the <b>start</b> time to receive calls (i.e. 0600 for 6am in the morning) and the second HHMM is the time to <b>stop</b> receiving calls (i.e. 2330 for 11:30pm at night) and where days = Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE.
<b>1111TBA"HHMMHHMM",days?</b>	As above but also send a confirmation text back to the sender with the stored setting.
<b>1111TBA?</b>	Query time band setting. A text message will be sent to the sender with the stored time window.
<b>1111TBA""</b>	Delete the timeband and allow calls to be received at any time.
<b>1111TBA""?</b>	Delete and confirm deletion of the timeband.

**Example 1:** To set a timeband where the calls to the users are to be received on all days of the week between 8:00am in the morning up until 5:00pm in the evening, the following text can be sent to the GSM module, remembering to use 24hr clock notation:

**1111TBA"08001700",AD?**

The GSM module will reply with the following text:

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TB = 08001700,Su,Mo,Tu,We,Th,Fr,Sa  
 OK VIDEX GSM

**Example 2:** To set a timeband where calls to the users are to be received on Mondays, Tuesdays and Fridays only, from 10:00am until 3:30pm, the following text can be sent to the GSM module:

1111TBA"10001530",Mo,Tu,Fr?

Note that commas , are used where appropriate to separate the days required for the timeband. The GSM module will reply with the following text:

TB = 10001530,Mo,Tu,Fr  
 OK VIDEX GSM

Note that in both examples shown the confirmation text message from the GSM module will include the day or days of the week shown after the timeband period.

**IMPORTANT NOTE:** When using the TBA feature if a master telephone number hasn't been stored using the STM command then a call from the intercom panel to the user that is outside of the timeband will simply be disabled. If a master telephone number has been stored then any call made from the intercom panel to the user that is outside of the timeband will be diverted to the master telephone number. In the event that a user also has a Videx audiophone and/or videophone addressed as the same phone ID that the user's telephone number is programmed to then the call from the panel will still call these devices but not the user's telephone number.

### STORE TIMEBAND(S) FOR DIAL TO OPEN NUMBERS TO BE ACTIVE FOR, RELAY 1 ONLY (ATB)

This function together with the access levels feature (ACC), described further on, allows the dial to open numbers (DTO) for relay 1 to be programmed with up to 10 access control timebands (0 - 9). The access control timebands feature can be used to manage the access rights (enabling and disabling) of the dial to open numbers stored for relay 1 at various times.

Like the TBA timeband feature the **start** and **end** times for the timebands used in the programming command must use 24hr clock notation. For example, if timeband 0 is set from 8:45am to 7:30pm then the user(s) will only be able to use their dial to open numbers between the hours of 08:45 in the morning until 19:30 in the evening. Also the timebands can be set for a specific day or days of the week to be active for by adding the day or days to the end of the programming command, refer to the "days" table on page 34 for the codes used for the days required.

When including the day or days in the command they must be separated using a comma , between the codes required, also refer to the following examples. Use the following text messages to store, query and delete the timebands.

1111ATBn"HHMMHHMM",days	Store the time period for timeband n, where n = timeband no. (0 - 9) using this format: the first HHMM is the <b>start</b> time for dial to open no's to be active (i.e. 0845 for 8:45am in the morning) and the second HHMM is the <b>end</b> time when dial to open no's will stop being active (i.e. 1930 for 7:30pm at night) and where days = Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE.
1111ATBn"HHMMHHMM",days?	As above but also send a confirmation text back to the sender with the stored setting.
1111ATBn?	Query timeband n setting, where n = timeband no. (0 - 9) A text message will be sent to the sender with the stored timeband no., time period and days active for.
1111ATBn""	Delete timeband n, where n = timeband no. (0 - 9).
1111ATBn""?	Delete and confirm deletion of the timeband.

**Example 1:** To set timeband 0 to allow for dial to open numbers (relay 1 only) to be active between 8:00am in the morning up until 2:00pm in the afternoon and for weekends only, the following text can be sent to the GSM module, remembering to use 24hr clock notation:

1111ATB0"08001400",WE?

The GSM module will reply with the following text:

ATB0 = 08001400,Su,Sa  
 OK VIDEX GSM

**Example 2:** To set timeband 1 to allow for dial to open numbers (relay 1 only) to be active between 2:00pm in the afternoon until 3:00pm in the afternoon and for Mondays, Wednesdays and Fridays only, the following text can be sent to the GSM module, remembering to use 24hr clock notation:

1111ATB1"14001500",Mo,We,Fr?

Note that commas , are used where appropriate to separate the days required for the timeband. The GSM module will reply with the following text:

ATB1 = 14001500,Mo,We,Fr  
 OK VIDEX GSM

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Note that in both examples shown the confirmation text message from the GSM module will include the day or days of the week shown after the timeband period.

**IMPORTANT NOTE:** It should also be noted that the ATB timebands feature cannot be used alone it must also be used in conjunction with the access levels feature ACC described below.

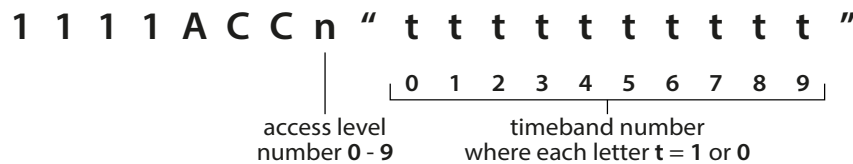
### STORE ACCESS LEVELS FOR DIAL TO OPEN NUMBERS TO BE ACTIVE FOR, RELAY 1 ONLY (ACC)

The access levels feature (ACC) allows the 10 access control timebands (ATB) to be assigned to one of or a combination of up to 10 access levels (0 - 9). This feature of the GSM module is particularly useful on systems where restricted access is required where users may only be allowed access through different doors/gates at different times of the day.

Before setting up an access level it is recommended that any timebands that may be required are setup first following the access control timebands programming command ATB described above.

Use the following text messages shown in the table below to store, query and delete an access level.

1111ACCn"tttttttt"	Assign the timebands tttttttt to access level n, where n = access level no. 0 - 9, each of the timebands tttttttt = 1 or 0 (where 1 = timeband assigned and 0 = timeband not assigned), also refer to the <b>ACC</b> command string shown in <b>Fig.39</b> below.
1111ACCn"tttttttt"?	As above but also send a confirmation text back to the sender with the stored setting.
1111ACCn?	Query access level n, where n = access level no. 0 - 9 and send confirmation text back to sender with stored access level settings.
1111ACCn""	Delete access level n, where n = access level no. 0 - 9.
1111ACCn""?	As above but also send a confirmation text back to the sender confirming access level deleted.



**Fig. 39**

**Example:** Following the format of the **ACC** command string shown in **Fig.39** the access level **n** represents the access level number from **0 - 9**, e.g. if access level **8** is being programmed then **n = 8** in the command string.

Each letter **t** in the command string represents which timeband(s) will be assigned to the access level and would be shown with the value of **1** (assigned) or **0** (not assigned), e.g. if the timebands **0, 2, 4, 6** and **8** were to be assigned to the access level then "tttttttt" would be shown as "10101010" in the command string.

The following text can then be sent to the GSM module to program an access level:

1111ACC8"10101010""11001100"?

Including a **?** at the end of the command the GSM module will reply with the following text:

AL8 = "10101010"  
OK VIDEX GSM

Remember that each timeband would be programmed using the store timeband command **ATB** (see previous pages).

### FREE ACCESS TIMEBANDS (0 - 9) INC. OUTPUT SETUP (R1, R2 OR R3) WITH LATCH OR MOMENTARY TRIGGER (FRE)

The GSM module has up to 10 programmable free access timebands (0 - 9) that can be setup to operate any of the onboard relays (**R1, R2** or **R3**). The relays can be set to latch or momentarily trigger for the programmed relay time. The timebands are programmed in the same way as the access control timebands (**ATB**) with a **start** time and an **end** time (using 24hr clock notation) which can be set for a specific day or days of the week to be active for.

If the selected output (**R1, R2** or **R3**) is setup to latch, the free access timeband will automatically activate the output when the **start** time is reached and will deactivate the output when it reaches the **end** time (i.e. the selected relay will stay latched for the duration of the timeband).

If the selected output (**R1, R2** or **R3**) is setup for momentary trigger, the free access timeband will automatically activate the output for the respective programmed relay time when the **start** time of the timeband is reached. When the timeband reaches the **end** time the selected output will trigger again for the programmed relay time, for example if relay 2 was setup to trigger for 5 seconds then the relay will activate for 5 seconds at the beginning of the timeband and then activate again for 5 seconds at the end of the timeband.

The following text messages can be used to setup the free access timebands to activate one of the GSM module's relays and setup the selected output for latch or momentary trigger. For the list of days refer to the "days" table on page 34.

## Programming the GSM Module

<b>1111FREn"HHMMHHMM"days:m:o</b>	Store the time period for free access timeband n, where n = timeband no. (0 - 9) using this format: the first HHMM is the <b>start</b> time to be active from (i.e. 0845 for 8:45am in the morning) and the second HHMM is the <b>end</b> time that will stop being active from (i.e. 1930 for 7:30pm at night), where days = Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE, output trigger m = L for latch or M for momentary and output selection o = R1 for relay 1, R2 for relay 2 or R3 for relay 3.
<b>1111FREn"HHMMHHMM"days:m:o?</b>	As above and also send a confirmation text back to the sender of programmed free access timeband period including day(s) active for, output trigger and output selection.
<b>1111FREn?</b>	Query the information stored for free access timeband n, where n = free access timeband number (0 - 9), also send a confirmation text back to the sender.

**Example:** To program free access timeband number 7 to latch relay 3 of the GSM module between 7:45am until 10:45am for the weekend only, the following text can be sent to the GSM module:

**1111FRE7"07451045"WE:L:R3?**

Note that in this example no comma , is required to separate the time period and days selection. A ? has been included to receive a confirmation text. The GSM module will reply with the following text:

**FA7 =07451045,Su,Sa,L,R3  
OK VIDEX GSM**

In this example the reply from the GSM module confirms the relay has been setup to latch for the weekend only (Saturday Sa and Sunday Su) for free access timeband number 7 between 7:45am until 10:45am.

**IMPORTANT NOTE:** If the selected output (R1, R2 or R3) is setup for a momentary trigger the output will trigger for the respective programmed relay time. Remember to set the relay output time using the appropriate relay programming code, i.e. for the relay 1 use 1111R1Tnnn? and so on.

It should also be noted that when any of the relays have been setup with free access the free access feature takes priority over other programming or modes that may have been setup for the relay.

### CLEAR ALL FREE ACCESS TIMEBANDS (FRD)

It is also possible to clear and reset all the free access timebands. The following text message can be used clear all the free access timebands.

<b>1111FRD?</b>	Delete all free access timebands, also send a confirmation text back to the sender.
-----------------	---

### CHECK/SET DATE & TIME (CLK)

The check date and time feature relies on the network providers time zone setting (also see timeband **TBA** notes on page 34). After a SIM has been placed into the GSM module and powered up the SIM will attempt to register with the network and automatically synchronise with the network providers time zone setting. The following text messages can be sent to the GSM module to check and set the current time and date. The date and time format is as follows: **yy/mm/dd,hh:mm**, where yy = year, mm = month, dd = date and hh = hour, mm = minutes.

<b>1111CLK?</b>	Check current time & date and send a confirmation text back to the sender.
<b>1111CLK"yy/mm/dd,hh:mm"</b>	Set current time & date.
<b>1111CLK"yy/mm/dd,hh:mm"?</b>	Set current time & date and send a confirmation text back to the sender.

**Example:** Setting the current time & date to 10:05am, 18th April 2016, the following text can be sent to the GSM module:

**1111CLK"16/04/18,10:05"?**

The GSM module will reply with the following text:

**CLK = 16/04/18, 10.05 OK  
VIDEX GSM**

### SEND DTMF TONE AFTER CALL ANSWERED FOR PHONE ID.1 CALL BUTTON (DTP, DTD AND DTT)

It is possible to setup the GSM module to send a DTMF tone after a call is answered. This option is only available for both the primary number of phone **ID.1** call button and the divert 1 number for phone **ID.1**. This feature is useful if the GSM module is dialling into a telephone system where an automated menu is present and a DTMF tone is required to select a particular option from the menu. This feature is disabled by default (set to X). The following programming commands allow the user to setup the DTMF tone(s) required.

- The **DTP** command sets the DTMF tone required (from 0 - 9) after a call is answered for phone **ID.1** call button.
- The **DTD** command sets the DTMF tone required (from 0 - 9) after divert 1 call is answered for phone **ID.1** call button.
- The **DTT** command sets the delay time from when the call is answered to when the DTMF is sent.



## Programming the GSM Module

### SET DTMF TONE REQUIRED FOR PHONE ID.1 CALL BUTTON PRIMARY NUMBER

1111DTPn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for button 1).
1111DTPn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for button 1).

### SET DTMF TONE REQUIRED FOR PHONE ID.1 CALL BUTTON DIVERT NUMBER

1111DTDn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for divert 1).
1111DTDn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for divert 1).

### SET THE DELAY TIME FROM WHEN THE CALL IS ANSWERED TO WHEN THE DTMF TONE IS SENT

1111DTTnnn	Set the time nnn, where nnn = 001 - 012 seconds.
1111DTTnnn?	Set the time nnn, where nnn = 001 - 012 seconds and also send a confirmation text back to the sender of the time stored.

### QUERY THE SETTINGS

1111DTP?	Query the DTMF tone set, replies TP = n, where n = 0 - 9 or X.
1111DTD?	Query the DTMF tone set, replies TD = n, where n = 0 - 9 or X.
1111DTT?	Query the delay time set, replies TT = nnn, where nnn = 001 - 012 seconds.

### ENABLE THE DIAL '0' ON ANSWER FUNCTION (EDZ)

When enabled this feature allows an incoming call to be diverted to the programmed divert telephone number if the '0' button on the telephone **has not** been pressed after answering the call. This can be useful if the user's number has an answerphone service (or answer machine) and they do not want the call to be answered by this service or if the primary number (mobile no.) is switched off. By default this function is disabled (set to 000). The following texts can be used to enable or disable this function.

1111EDZnnn	Set the dial '0' function nnn: 001 or 000 (001 = enable, 000 = disabled).
1111EDZnnn?	Set the dial '0' function nnn: 001 or 000 (001 = enable, 000 = disabled) also send a confirmation text back to the sender.
1111EDZ?	Query the dial '0' mode set.

When this feature is set the user answering the call **must press '0'** on their phone to accept the call otherwise the call will be diverted to the next number.

### ENABLE THE # (HASH) FUNCTION (ED#)

Once enabled the end user must press the # button on their phone before pressing any other button (also refer to the user command table on page 43) with the exception of when the user needs to enter the 4 digit programming code "1111".

The user will have up to 3 seconds to press the user command button (e.g. button 3 to activate the relay), if the user doesn't press the next button within the 3 second window they will have to press the # button again. By default this function is disabled (set to 000). The following texts can be used to enable or disable this function.

1111ED#nnn	Set the # function nnn: 001 or 000 (001 = enable, 000 = disabled).
1111ED#nnn?	Set the # function nnn: 001 or 000 (001 = enable, 000 = disabled) also send a confirmation text back to the sender.
1111ED#?	Query the # mode set.

### FIND A DIAL TO OPEN NUMBER (FDT)

The find a dial to open number feature allows the user to find the location (between 000 - 999) of where a dial to open telephone number is stored in the GSM module. It also confirms which dial to open list (**S1R**, **S2R** or **S3R**) the number is stored on. It locates the number from using the full telephone number or a minimum of the last 4 digits of a number (see following examples). The following programming command can be used.

1111FDT"yyyyyyyyyy"?	Find dial to open location of telephone number yyyyyyyyyy stored, where yyyyyyyyyy = telephone number (minimum of 4 digits).
----------------------	--

**Example 1:** Find dial to open location of the telephone number using the full number **01234567890**, the following text can be sent to the GSM module:

**1111FDT"01234567890"?**

The GSM module will reply with the following text:

**STORED IN (x) nnn OK  
VIDEX GSM**

where **x** is the dial to open list 1 (S1R), 2 (S2R) or 3 (S3R),  
and where **nnn** = the dial to open location 000 - 999 where the number is stored.

## Programming the GSM Module

**Example 2:** Find dial to open location of the telephone number using the last 4 digits of the number **4567**, the following text can be sent to the GSM module: **1111FDT"4567"?**

The GSM module will reply with the following text:

**STORED IN (x) nnn OK**  
**VIDEX GSM**

where **x** is the dial to open list 1 (S1R), 2 (S2R) or 3 (S3R),

and where **nnn** = the dial to open location 000 - 999 where the number is stored.



**IMPORTANT: IN ORDER FOR THE ART.2270 GSM MODULE TO FUNCTION CORRECTLY AND EFFECTIVELY THE FIRST PHONE ID (SID) AND THE LAST PHONE ID LIMITS (EID) MUST BE SET AND NOT LEFT ON THE DEFAULT SETTING.**

### FIRST PHONE ID TO RESPOND TO (SID)

The first phone ID to respond to feature is the phone ID of the first set of programmed telephone numbers (primary and divert numbers) that the Art.2270 GSM module will dial when a call for that particular phone ID has been received on the L and - databus connection from the intercom panel.

For example on a VX2200 system the phone ID range ID.1 to ID.10 could be used for calling standard Videx audio or videophones and the phone ID range starting from ID.11 upwards could be used purely to call programmed telephone numbers stored in the GSM module. When a call from the intercom panel is received on the databus to call phones in the ID range ID.1 to ID.10 the GSM module will ignore these calls and the call from the panel will call through to the respective Videx audio or videophones as normal. A call from the intercom panel that is received on the databus starting from ID.11 and the GSM module will dial the programmed number(s) that is stored for ID.11 upwards.

By default the first phone ID to respond to is set to phone ID.150, however this can be set from phone **ID.1** up to phone **ID.180**. The following programming commands can be sent to the GSM module to set/check the first phone ID to respond to.

<b>1111SIDnnn</b>	Set the first phone ID to respond to nnn, where nnn = phone ID from 001 - 180.
<b>1111SIDnnn?</b>	Set the first phone ID to respond to nnn, where nnn = phone ID from 001 - 180. Also send a confirmation text back to the sender.
<b>1111SID?</b>	Query the first phone ID to respond to stored in the GSM module.

### LAST PHONE ID TO RESPOND TO (EID)

Similar to the previous feature **SID**, the last phone ID to respond to feature is the phone ID of the last set of programmed telephone numbers (primary and divert numbers) that the Art.2270 GSM module will dial when a call for that particular phone ID has been received on the L and - databus connection from the intercom panel.

Using the same example above, if the phone ID range ID.1 to ID.10 is used to call standard Videx audio or videophones, the first phone ID to respond to (**SID**) is set to start from phone ID.11 and the last phone ID to respond to is set to end on phone ID.20 then the GSM module will only call the programmed telephone number(s) for the phone ID's in the range from ID.11 up to ID.20. Like before any calls from the intercom panel received on the databus to call phones in the ID range ID.1 to ID.10, then the GSM module will ignore these calls and the call from the panel will call through to the respective Videx audio or videophones as normal.

By default the last phone ID to respond to is set to phone ID.150, however this can be set from phone **ID.1** up to phone **ID.180**. The following programming commands can be sent to the GSM module to set/check the last phone ID to respond to.

<b>1111EIDnnn</b>	Set the last phone ID to respond to nnn, where nnn = phone ID from 001 - 180.
<b>1111EIDnnn?</b>	Set the last phone ID to respond to nnn, where nnn = phone ID from 001 - 180. Also send a confirmation text back to the sender.
<b>1111EID?</b>	Query the last phone ID to respond to stored in the GSM module.

**IMPORTANT NOTE:** When programming the GSM module it is important to always set both the first phone ID (**SID**) and the last phone ID (**EID**). If left on the default phone ID setting, ID.150, any call from the intercom panel will not call through to any stored telephone numbers (unless a number is actually stored for phone ID.150) as the GSM module will ignore any phone ID's that are not set between the first and last phone ID range.

### END ON LAST DIVERT (EOD)

The end on last divert feature allows the GSM module to ring each programmed divert number as usual and if the divert number is not answered it will then proceed to ring the next programmed divert number, if however there is no divert number stored the GSM module will simply end the call. By default this feature is disabled (set to 000), but can be enabled (set to 001). The following programming commands can be used to set/check the end on divert function.

<b>1111EODnnn</b>	Set end on last divert to nnn, where nnn = 000 (disabled) or 001 (enabled).
<b>1111EODnnn?</b>	Set end on last divert to nnn, where nnn = 000 (disabled) or 001 (enabled). Also send a confirmation text back to the sender.
<b>1111EOD?</b>	Query the end on last divert status stored in the GSM module.



## Programming the GSM Module

### SHUTDOWN AND RESTART (RBT)

This command feature allows the GSM module to be remotely shutdown and then rebooted again. The following programming command can be sent to the GSM module.

<b>1111RBT</b>	Shutdown and restart the GSM module.
----------------	--------------------------------------

**IMPORTANT NOTE:** The RBT feature should not be confused with the 'hard-wired' reset (described on page 24). The RBT function simply powers down the GSM module and then powers it back up again.

The following commands are reserved for the technical department for interrogating the GSM module when testing and applying specific additional features that are not covered in this technical manual. For the application of these commands please contact Videx Technical on tel: **0191 224 3174** for UK based customers and Videx customer support on tel: **+39 0734 631699** for overseas customers.

### PROGRAM BY 'AT' COMMANDS (PRG)

This is an advanced feature of the system which can allow an 'AT' format command to be sent to the OEM GSM module.

<b>1111PRG(command)</b>	Send an 'AT' command to the OEM module.
-------------------------	---

### AT COMMAND SEND AT START UP (AT1, AT2 AND AT3)

The AT commands **AT1**, **AT2** and **AT3** are advanced commands of the GSM module that allows additional features to be incorporated into the module for testing purposes and include additional features for a specific application that is not already covered in this manual. The following commands can be sent to the GSM module.

<b>1111AT1"ATxxxxxx"?</b>	Include any AT command for AT1.
<b>1111AT2"ATxxxxxx"?</b>	Include any AT command for AT2.
<b>1111AT3"ATxxxxxx"?</b>	Include any AT command for AT3.

### OBTAIN THE GSM'S IMEI NUMBER (IMEI)

If the IMEI number (unique 15 digit number of the main internal hardware chip) of the GSM module is required the following text message can be sent to obtain the number.

<b>1111IME?</b>	Query IMEI number of the GSM module, also send confirmation to the sender.
-----------------	--

**Example:** Obtain IMEI number of the GSM module, the following message can be sent to the GSM intercom:

**1111IME?**

The GSM module will reply with the following text:

**IMEI-357803045065535**  
**OK VIDEX GSM**

**IMPORTANT NOTE:** If installing the GSM module for the first time, when registering the SIM card with the chosen network provider they may ask for the IMEI number of the GSM module. As the programming command described above will only work with a SIM card that has already been registered with a network the command will not work.

Therefore in order to obtain the GSM's IMEI number, which is located on the main hardware chip internally, use a SIM that is already registered with another network provider and fit it into the GSM module (following the procedure on page 24 for initialisation), then use the programming command above **1111IME?** to obtain the GSM's IMEI number so that when registering the actual SIM that will be used with the Art.2270 GSM with the chosen network you will have the appropriate IMEI number to hand.

### UNLATCH PREVENTION FEATURE (LLA)

The unlatch prevention command **LLA**, when enabled, will prevent a programmed latched output (the Art.2270 GSM module's relays **R1**, **R2** and **R3**) from being inadvertently unlatched by a programmed DTO number or by pressing the relevant button (**1**, **2** or **5** for the respective relays **R1**, **R2** or **R3**) on the phone during a call. Even when this feature is enabled if the GSM's relay outputs have been set to latch mode (i.e. the relay times **R1T**, **R2T** and **R3T** have been set to '000') they can still be unlatched using the relevant **1111RL1**, **1111RL2** or **1111RL3** programming command.

By default this feature is disabled (set to 000), but can be enabled (set to 001). The following programming commands can be used to enable/disable and check the unlatch prevention feature.

<b>1111LLAnnn</b>	Set the unlatch prevention feature to nn, where nnn = 000 (disabled) or 001 (enabled).
<b>1111LLAnnn?</b>	Set the unlatch prevention feature to nn, where nnn = 000 (disabled) or 001 (enabled). Also send a confirmation text back to the sender.
<b>1111LLA?</b>	Query the status of the unlatch prevention feature stored in the GSM module.

# The GSM Mobile Apps

## THE VIDEX SMS WIZARD & SMS WIZARD PRO

In addition to programming by direct text messages or using the GSMSK PC programming software it is also possible to program the GSM intercom using the GSM mobile apps, the **Videx SMS Wizard** for users and the **Videx SMS Wizard PRO** for installers and engineers.

The GSM mobile apps can be used to simplify the programming of the GSM intercom using SMS messages.



The SMS wizards generate the text message required to communicate with the GSM intercom. Depending on the model of the GSM (digital GSM, GSM PRO, GSM Lite, GSMVRK and 2270 GSM module) text messages can be generated to program features such as access codes, proximity access fobs/cards, dial to open (DTO) telephone numbers, assign pre-existing access levels, free access periods and call button/apartment telephone numbers.

Other features are also included to simplify the programming setup process. Additionally it is also possible for users to control their gate or door via the dial to open (DTO) or text message features.

## WHERE TO DOWNLOAD THE SMS WIZARD/SMS WIZARD PRO AND GETTING STARTED

Both the **SMS Wizard** and **SMS Wizard PRO** are available for both Android smart devices (mobile smartphones and tablets) and also Apple iOS (iPhones and iPads) and can be downloaded for free from the Google Play Store (for Android devices) and the App Store (for iOS devices).

Before using either of the SMS wizards, the following details will be required for initial setup:

- **Model of the GSM intercom module** - e.g. Art.4810 (GSM PRO), Art.4812 or Art.4812R (digital GSM) etc.
- **Firmware level of the GSM intercom** - e.g. for the Art.2270 GSM module the firmware might be **MD1.1.3** (the firmware version of the GSM module can usually be found on the label on the top of the GSM or by sending the text message **1111VER?** to obtain the firmware version, also refer to notes on page 33).
- **Telephone number of the GSM intercom** - i.e. the mobile number of the SIM card being used in the GSM module.
- **Master code of the GSM intercom** - i.e. the 4 digit code used for programming, by default this is set to '1111'. In the event that this code has been forgotten or lost please refer to '**change the 4 digit master code (CDE)**' notes on page 33 or '**resetting the master code to 1111**' notes on page 24 to reset the code back to factory default if required.

If the **SMS Wizard** is downloaded and installed it is recommended that you first tap on the help icon (?) in the top right corner of the app's homescreen and then follow the '**TO GET STARTED**' quick guide.

It should also be noted when navigating between the app's menu to the required programming screens the help icon (?), always located in the top right corner of each screen, can be used to offer additional guidance on how to use the current programming screen.

If the **SMS Wizard PRO** is downloaded and installed it is recommended that you first tap on the menu icon ⋮ in the top right corner of the app's homescreen and then tap on the hint icon (!) from the drop down menu and then follow the '**TO GET STARTED**' quick guide.

It should also be noted when navigating between the app's different programming screens the hint icon (!) from the drop down menu on each screen can be used to offer additional guidance on how to use the current programming screen.

## SMS WIZARD/SMS WIZARD PRO APP COMPATIBILITY

Both SMS Wizards are compatible with the latest GSM intercoms and modules available. They are also compatible with the older Art.4810N GSM PRO models from firmware version **1.0.4** onwards.

# System Operation

## MAKING A CALL AND ANSWERING A CALL

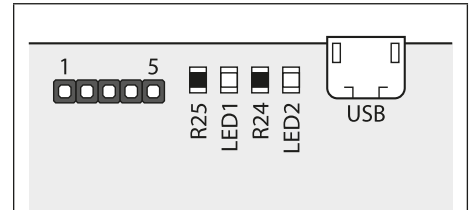
When the system is in standby both the red LED (LED1) and the green LED (LED2) on the GSM module will be switched OFF, as shown in **Fig.40**.

To make a call simply press the call button required on the intercom panel. Providing the first phone ID (SID) and last phone ID (EID) range has been set correctly for the stored telephone numbers on the GSM module (also see notes on first and last phone ID programming on page 39) then the GSM module will call the relevant number.

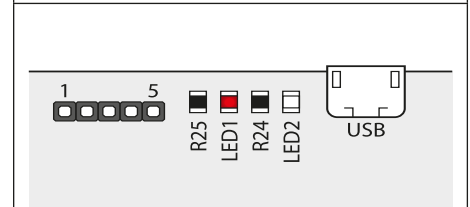
When the call starts the red LED (LED1) on the GSM module will switch ON to indicate a call is in progress and the system is busy, see **Fig.41**. During this period and depending on which intercom panel is installed the relevant call progress LED's will illuminate or the call display will indicate the status of the call (i.e. on a functional panel the busy LED will switch ON or on a digital panel the display will show call in progress etc.).

When the call is answered the red LED (LED1) will stay switched ON. Again depending on the intercom panel installed the relevant call progress LED's will illuminate or call status will be indicated on the panel. A conversation between the caller and the user can take place.

Please note that the red LED (LED1) will stay switched ON for the duration of the call and will switch OFF at the end of a call when either the user hangs up the telephone or if the call time (SPT) expires, also refer to set call time notes on page 31.



**Fig. 40**



**Fig. 41**

## DIVERTED CALL

First make a call from the intercom panel, as described above. If any divert numbers are programmed in the GSM module and the primary number is not answered the GSM module will dial the divert number(s) after the programmed divert time DIT has elapsed (also refer to STD, STE and STF divert number programming on page 27 and DIT divert time setup on page 32).

**IMPORTANT NOTE:** When the GSM module diverts to a programmed divert number there will be a brief pause before the module proceeds to dial the divert number. This is normal behaviour from the GSM module. During this time and depending on which intercom panel is installed the appropriate LED's and call reassurance tones or call progress indication on digital displays will still be shown and heard to indicate that the divert call is still active.

When the speech is live during an incoming or diverted call other useful user commands can be activated, please refer to the user command tables on page 43.

## DOOR/GATE RELEASE ON THE INSTALLED INTERCOM PANEL

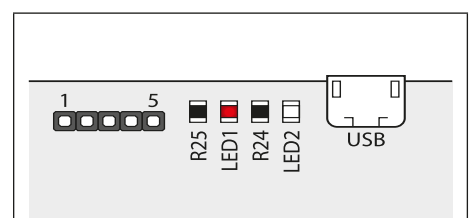
After a call has been answered (either from a direct call or diverted call) to activate the intercom panel's onboard relay to trigger the door/gate press 3 on the telephone.

Again depending on the intercom panel installed the relevant open LED will switch ON and/or reassurance tones heard and the panel's onboard relay will activate for the programmed time (the programmed relay time on the intercom panel will depend on which panel is installed and how it was setup, refer to the accompanying technical documents that came with the intercom panel).

## DIAL TO OPEN RELEASE FOR GSM MODULE'S RELAYS 1, 2 AND 3

Activating the GSM module's onboard relays 1, 2 and 3 is only possible if the caller's number has been stored correctly for this feature (also refer to storing dial to open numbers notes S1R, S2R and S3R on pages 28 - 30 for correct setup).

Simply dial the mobile number of the SIM in the GSM module. The GSM module will recognise the stored dial to open number calling and the red LED (LED1) will switch ON, as shown in **Fig.42**. The GSM module will drop the call and trigger the relevant relay (1, 2 or 3) for the programmed relay time (R1T, R2T or R3T), after the relay time has elapsed the red LED (LED1) will switch OFF.



**Fig. 42**

**IMPORTANT NOTE:** For this function to operate correctly the stored dial to open number must have any "caller ID" feature or "withheld number" feature switched OFF. If this feature is not switched OFF on the number making the call to the GSM module then the GSM module will not recognise the caller's number and simply drop the call and the relay will not operate.

# User Commands

## USER COMMAND TABLES

The following user command table shows the user commands that can be carried out during a call. Successful commands are signalled by two beeps from the telephone, errors are signalled by four beeps.

**IMPORTANT NOTE:** When the EDZ function has been enabled the user must first press the 0 button on their phone to answer the call before pressing any of the following user commands (also refer to page 38 for further information).

Also if the ED# function has been enabled the user must press the # button on their phone before pressing any of the following user commands (also refer to page 38 for further information).

FUNCTION	1st KEY TO PRESS	2nd KEY TO PRESS
Release the door or gate from intercom panel <sup>1</sup>	3	n/a
Activate Relay 1 on GSM module <sup>2</sup>	1	n/a
Activate Relay 2 on GSM module <sup>2</sup>	2	n/a
Activate Relay 3 on GSM module <sup>2</sup>	5	n/a
Electronically adjust door speech volume (panel's speaker) via GSM module	4	0 - 9 (0 = lowest, 9 = highest)
Electronically adjust phone speech volume (panel's mic) via GSM module	7	0 - 9 (0 = lowest, 9 = highest)

<sup>1</sup> - Please note that pressing 3 on the phone after a call has been answered only activates the intercom panel's onboard relay for the programmed relay time that has been setup on the intercom panel. The setup of the relay time on the intercom panel can be carried out following the instructions that accompany the intercom panel used. The only time that the GSM module's relay(s) 1, 2 or 3 will activate when button 3 is pressed on the phone is when the auxiliary mode(s) **A1M**, **A2M** or **A3M** on the GSM module has been set to mode **006** (**relay 1, 2 or 3 triggered by door ID 1, 2 or 3 respectively**), also refer to auxiliary mode setup notes on page 32 and **Fig.16** on page 18.

<sup>2</sup> - Pressing 1, 2 or 5 on the phone after a call has been answered will activate relay 1, 2 or 3 respectively on the GSM module, regardless of which auxiliary mode(s) **A1M**, **A2M** or **A3M** on the GSM module has been set to. The relay(s) will activate for the programmed relay time **R1T**, **R2T** or **R3T**. If the relay time has been set to latch mode (set to **000**) then pressing 1, 2 or 5 on the phone will act like a 'toggle' button (latch ON/latch OFF).

The next user command table shows the most common SMS text messages that can be sent to the GSM module while in standby (the examples shown in the table use the default 4 digit master code 1111). For all other optional text queries refer to the **programming the GSM module** notes on pages 25 - 40.

FUNCTION	MESSAGE TO SEND
Check the signal strength	1111SIG?
Check the available balance <sup>3</sup>	1111BAL?
Check the software version	1111VER?
Activate Relay 1 on GSM module <sup>4</sup>	1111RL1? (? optional, send if confirmation is required)
Activate Relay 2 on GSM module <sup>4</sup>	1111RL2? (? optional, send if confirmation is required)
Activate Relay 3 on GSM module <sup>4</sup>	1111RL3? (? optional, send if confirmation is required)
Check Timeband setting (for phone ID's)	1111TBA?
Query Dial to Open Timebands (0 - 9)	1111ATBn? (where n = timeband no. 0 - 9, also see notes on pages 35 - 36)
Query Access Level (0 - 9)	1111ACCn? (where n = access level no. 0 - 9, also see notes on page 36)
Query Free Access Timebands (0 - 9)	1111FREN? (where n = timeband no. 0 - 9, also see notes on pages 36 - 37)
Check Intercom Time and Date	1111CLK?
Find a Dial to Open (dial to open) number <sup>5</sup>	1111FDT"yyyyyyyyyy"? (where yyyyyyyyyy = telephone number, minimum of 4 digits, also refer to page 38 - 39)

<sup>3</sup> - The balance can only be checked if the correct balance check string has been stored (also see store balance check dial string **SDL** notes on page 33).

<sup>4</sup> - When sending the text message **1111RL1?**, **1111RL2?** or **1111RL3?** then relay 1, 2 or 3 will activate respectively on the GSM module, regardless of which auxiliary mode(s) **A1M**, **A2M** or **A3M** on the GSM module has been set to. The relay(s) will activate for the programmed relay time **R1T**, **R2T** or **R3T**. If the relay time has been set to latch mode (set to **000**) then sending the text message **1111RL1?**, **1111RL2?** or **1111RL3?** will act like a 'toggle' command (latch ON/latch OFF).

<sup>5</sup> - Remember when using the **FDT** command to find the dial to open location of a phone number a minimum of the last 4 digits of the phone number can be used for the search.

# Additional User Information

## UNDERSTANDING THE SIGNAL STRENGTH (SIG) AND BIT ERROR RATE (BER)

When a request for signal strength message is sent to the GSM module it will reply with a two part code.

The first part of the code is a signal strength code **SIG** which will be between 0 – 31 or 99. Ideally the signal strength should be as close to 31 as possible for the best possible performance. The lower the number, the weaker the signal. Signal strengths lower than 10 may cause operational problems such as loss of speech quality (and possibly missing DTMF tones) and/or network loss. A signal strength of 99 indicates it could not be detected.

The second part of the code is the bit error rate **BER**. The bit error rate is used in digital telecommunication as a figure of merit for how effectively the receiver (in this case the GSM module) is able to decode transmitted data (the data in this instance are the various text message commands used to program the GSM module, described on pages 25 - 40, speech and DTMF signals used by the GSM module for normal operation). It is the percentage of bits that have errors relative to the total number of bits received in a transmission. Ideally the **BER** code should be as close to 0 as possible, the lower the **BER** the better. High **BER** codes can be caused by noise, interference, distortion or bit synchronisation errors over the transmission of data to the GSM module and as a result the problems described above (loss of speech quality, possibly missing DTMF tones and/or network loss etc.) can occur.

The example below shows the ideal reply to expect when the signal strength query **111SIG?** is sent to the GSM module:

**SIGNAL = 31**  
**BER = 0**  
**OK VIDEX GSM**

To achieve the best overall performance from the GSM module a high signal strength **SIG** and low bit error rate **BER** is required. In the event that a low signal strength and high bit error rate is received it is recommended that the **Art.432** or **Art.433** antenna is repositioned, where permissible, at the highest point to achieve the best signal. Where this is not possible an alternative high gain antenna can be used, in particular Videx recommends using the **ANT-GSM-2dB-5M** or **ANT-GSM-2dB-15M** high gain antennas or another suitable GSM antenna with a standard SMA male connector.

## DIALLING INTO THE GSM MODULE

There are two possible outcomes to dialling into the Art.2270 GSM module:

1. After dialling the GSM number the required relay (1, 2 or 3) will activate and the call will be dropped, provided that the telephone number which is making the call is programmed in one of the 3 dial to open lists (using the **S1R**, **S2R** and **S3R** programming commands described on pages 28 - 30) and any "caller ID" or "withheld number" feature is switched OFF. Remember the dial to open feature will only activate the GSM module's onboard relay(s) and not the the relay on the intercom panel that the GSM module is connected to.
2. If a call is made to the GSM module from a number that is not stored in one of the 3 dial to open lists then the GSM module will simply end the call and no further action will take place. Even if a number is stored as a primary or divert number (using the **STN**, **STD**, **STE** and **STF** programming commands described on pages 27 - 28) no further action will take place. Unlike other GSM intercoms (GSM4K, GSMVRK and the digital GSM), the Art.2270 GSM module is connected to a common L and - databus which may also include other VX2200 intercom panels and therefore will not be able to connect the call through to a panel.

## SETUP CHECK LIST



**IMPORTANT NOTE: BEFORE USING THE ART.2270 GSM MODULE FOR THE FIRST TIME PLEASE RUN THROUGH THE CHECK LIST BELOW TO ENSURE THAT THE GSM MODULE HAS BEEN SETUP CORRECTLY. IN PARTICULAR PLEASE ENSURE THAT THE FIRST PHONE ID (SID) AND THE LAST PHONE ID LIMITS (EID) HAVE BEEN SET AND NOT LEFT ON THE DEFAULT SETTING (REFER TO PROGRAMMING NOTES ON PAGE 39).**

- ☒ Inserted a pre-registered SIM card, connected an antenna and 12Vdc power.
- ☒ Connected the Art.2270 GSM module to the L and - databus on the VX2200 system.
- ☒ Set the first phone ID (**SID**) which the Art.2270 GSM module will respond to.
- ☒ Set the last phone ID (**EID**) which the Art.2270 GSM module will respond to.
- ☒ Program the telephone numbers for each of the phone ID's (i.e. the phone ID's setup between the **SID** and **EID** limits).



# User Management

## RECORD SHEET

In order to manage the Art.2270 GSM module effectively it is recommended that an up to date record sheet is kept for all the programming particularly if there is a high volume of telephone numbers stored in the module. This will also be useful if any future changes need to be made. The following table format can be used to record the GSM's basic information.

GSM module's telephone No.	
IMEI number	
Master code (default 1111)	
Master telephone No.	

The table format below can be used to record the phone ID (call button numbers) and the three divert numbers (from 001 to 180).

PHONE ID (BUTTON NO.)	MEM. LOCATION	TELEPHONE NO.	USER NAME
Phone ID.1	STN001		
Phone ID.1 (divert 1)	STD001		
Phone ID.1 (divert 2)	STE001		
Phone ID.1 (divert 3)	STF001		
↓	↓	↓	↓
Phone ID.180	STN180		
Phone ID.180 (divert 1)	STD180		
Phone ID.180 (divert 2)	STE180		
Phone ID.180 (divert 3)	STF180		

It is also recommended that a record sheet, following the table format below, of the dial to open numbers (S1R, S2R and S3R) should be kept (from 000 to 999).

MEM. LOCATION	TELEPHONE NO.	USER NAME
S1R000....S1R999		
S2R000....S2R999		
S3R000....S3R999		

A note of the timeband settings for the phone ID's (TBA) should be kept, following the table format below:

	ON TIME	OFF TIME	Su	Mo	Tu	We	Th	Fr	Sa
Timeband	:	:							

A note of the dial to open timebands (ATB) should be kept (from 0 to 9), following the table format below:

TIMEBAND NO.	ON TIME	OFF TIME	Su	Mo	Tu	We	Th	Fr	Sa
Timeband 0	:	:							
↓	↓	↓							
Timeband 9	:	:							

A note of the free access timebands (FRE) should be kept (from 0 to 9), following the table format below:

TIMEBAND NO.	ON TIME	OFF TIME	Su	Mo	Tu	We	Th	Fr	Sa	RLY1	RLY2	RLY3	LAT	MOM
Timeband 0	:	:												
↓	↓	↓												
Timeband 9	:	:												

A note of the access levels should be kept (from 0 to 9), following the table format below:

ACCESS LEVEL NUMBER	ATB TIMEBAND NUMBER									
	0	1	2	3	4	5	6	7	8	9
Access Level 0										
↓										
Access Level 9										

## User Management

### USING THE GSMSK PC SOFTWARE TO MANAGE USER INFORMATION

Because of the high volume of user information that may need to be recorded it is possible to use the GSMSK PC software (version 4.0.0.0 or later) to record and save the user's information as an excel spreadsheet using the '**Export**' feature. The GSMSK software can be used to record and save the phone ID (call button) setup including divert numbers and the dial to open numbers.

Further information on how to do this can be found in the following technical manual:

- GSMSK\_66251720-EN\_V2-0 (or later version)

### MANAGING GSM EVENTS REMOTELY

Users can also remotely monitor events in real-time from the Art.2270 GSM module using Videx's web browser based events application. These events can then be viewed on any device such as a tablet, smartphone, laptop and PC.

**IMPORTANT NOTE:** The SIM card used in the GSM module requires a data package to be included in order to send the events to the server. Setup of the system only requires a few short steps and help on this can be found once registered and logged in.

Further details on how to register an online profile for this application can be found on the website: [www.videxevents.co.uk](http://www.videxevents.co.uk)



# Troubleshooting

## SYSTEM CHECKS AND TESTING

The following table can be used to help diagnose any potential issues that may be occur during installation and the system checks that can be carried out to help resolve them.

SYMPTOM	TEST
Interference on the speech (this could be distortion or noise elements over the speech).	Check the signal strength <b>1111SIG?</b> (if the signal strength is too low the GSM module increases it's power to compensate, causing interference with the speech circuits). Try relocating the antenna or using a more powerful or directional antenna (e.g. high gain antenna mentioned on page 44: <b>ANT-GSM-2dB-5M</b> or <b>ANT-GSM-2dB-15M</b> or another suitable GSM antenna with a standard SMA male connector.
	Ensure the antenna cables are not running close to the power supply cables or the L and - databus wires on the GSM module.
	Try a different SIM card from a different service provider as they may have better coverage in that area.
The GSM module is unresponsive.	Check the power supply output for the GSM module has adequate voltage (12Vdc minimum) as described earlier in this manual (refer to notes on pages 7 and 22).
	Try a full reset (refer to notes on page 24) following the full reset procedure with <b>A2</b> and <b>A3</b> linked to the - terminal.
	Try a different SIM card from a different network provider.
	Check the antenna is connected correctly (refer to notes on page 7).
	The GSM module may have a fault.
A long beep followed by a short beep is heard when the button is pressed on a functional panel (refer to table on page 6 for available panel types). Also the call progress LED's on the functional panel may not respond correctly.	No telephone number setup for the phone ID for that button. Check the phone ID programming on the GSM module (see <b>STN</b> notes on pages 27 - 28). Also check that the first phone ID to respond to and the last phone ID to respond to is setup correctly (see <b>SID</b> and <b>EID</b> notes on page 39).
	Check the SIM card is fitted correctly (refer to notes on page 23).
	Check the antenna is connected correctly (refer to notes on page 7).
	Check the GSM module has the correct 12Vdc power on the + and - terminals.
	Check the L and - databus connections are connected correctly on the GSM module and from the functional panel installed and also check it has sufficient bus voltage (7.5Vdc minimum).
	On the functional panel installed check that the button configuration is correctly wired according to the phone ID programming in the GSM module (see previous note above).
	Also refer to the troubleshooting section on any accompanying technical documents for the functional panel being installed for further guidance.
The door panel display shows 'busy', 'error' or 'not found' when an apartment is called on a digital panel (refer to table on page 6 for available panel types). Also if the speech board is switched ON it may announce 'you have entered an incorrect number, please try again'.	No telephone number setup for the phone ID for that apartment (flat). Check the phone ID programming on the GSM module (see <b>STN</b> notes on pages 27 - 28). Also check that the first phone ID to respond to and the last phone ID to respond to is setup correctly (see <b>SID</b> and <b>EID</b> notes on page 39).
	Check the SIM card is fitted correctly (refer to notes on page 23).
	Check the antenna is connected correctly (refer to notes on page 7).
	Check the GSM module has the correct 12Vdc power on the + and - terminals.
	Check the L and - databus connections are connected correctly on the GSM module and from the functional panel installed and also check it has sufficient bus voltage (7.5Vdc minimum).
	On the digital panel installed check that the apartment or flat number is actually programmed and/or the phone ID programming matches the phone ID programming in the GSM module (see previous note above).
	Also refer to the troubleshooting section on any accompanying technical documents for the digital panel being installed for further guidance.

## Troubleshooting

The GSM module does not respond to SMS messages.	Check the SIM card has an SMS service centre number stored. This will require putting the SIM card into a mobile phone to check. Contact the SIM card provider if you are not sure.
	Check the number you are sending the message to is correct (the mobile number of the SIM card in the GSM module).
	Try a different SIM card from a different network provider.
	Try resetting the 4 digit master code to 1111 (refer to notes on page 24) following the master code reset procedure with <b>A1</b> linked to the - terminal.
	Check the power supply output for the GSM module has adequate voltage (12Vdc minimum) as described earlier in this manual (refer to notes on pages 7 and 22).
	Check the antenna is connected correctly (refer to notes on page 7).
The GSM module does not respond to SMS messages, but all other functions appear to operate ok, e.g. dial to open feature, adjusting speech volumes, releasing the door/gate on the intercom panel when button 3 pressed on the phone etc.	This issue can occur on smartphones where the SMS messaging input method is set to UNICODE. Smartphones generally have 3 input methods: GSM alphabet, Automatic and UNICODE. The UNICODE setting is typically used when emoticons/emojis are used in the message so the digital GSM will not recognise text messages that are set to this mode.
	Check that the SMS messaging input method setting on the smartphone is <b>not</b> set up as UNICODE and is set to either GSM alphabet or Automatic. This can usually be done via the settings icon on the smartphone. If you are unsure of how to do this Videx recommend consulting with the user's manual that came with the smartphone or consulting directly with the manufacturer of the smartphone.
The call keeps dropping out.	Increase the call time ( <b>SPT</b> ) in programming (refer to page 31).
	Check the signal strength ( <b>1111SIG?</b> ) and if necessary, move or change the antenna or try a different SIM card provider.
Speech echoes and feeds back.	Try lowering the speaker ( <b>VR1</b> ) and mic ( <b>VR2</b> ) volume using the adjustable POTs on the top side of the GSM module (refer to notes page 8).
	Try adjusting the speech volumes electronically using the programmable settings during a call, i.e. when the speech is live (refer to user commands on page 43).
	Check the microphone is fitted correctly in the intercom panel installed (for both functional and digital panels) and that the mic hole is not blocked in any way.
	Try adjusting the mic, speaker and balance POTs on the intercom panel installed (this will vary between functional and digital panels). It is also recommended that you refer to the troubleshooting section on any accompanying technical documents for the functional or digital panel being installed for further guidance.
ERROR message returned in SMS when programming or no SMS returned at all even though a ? was included at the end of the message sent.	<p>Check over the message sent again and compare it with the examples in this manual. Common errors include:</p> <ol style="list-style-type: none"> <li>1. Using two apostrophe marks side by side instead of ". Note that these look the same in the message. An easy way to see if this is the problem is to move the cursor along in the message and if the cursor can get between the two " then it is not the correct character used.</li> <li>2. Lower case letters instead of upper case. For example using <b>stn</b> when <b>STN</b> should be used.</li> </ol>

## Troubleshooting

<p>Unable to open the gate/door on the intercom panel or activate the relays on the GSM module from the telephone during a call (DTMF tones not being recognised).</p>	<p>If the DTMF tone to release the gate/door (or other DTMF tones shown in the first user command table on page 43) does not work then check to see if the <b>ED#</b> function has been enabled:</p> <ol style="list-style-type: none"> <li>1. Send the following SMS command <b>1111ED#?</b> to the GSM module and wait for a reply confirming the status of this function.</li> <li>2. Note: If the <b>1111EDZ</b> function (also see notes on page 38) is set to 001 (enabled) then when answering the call it will be necessary to first press 0 to accept the call before 3 can be used to operate the gate/door.</li> </ol> <p>Further notes on how to effectively use this function and on the setup of this function can be found on page 38.</p>
	<p>If the DTMF tones are not working reliably then try the following adjustments:</p> <ol style="list-style-type: none"> <li>1. Send the following SMS command <b>1111AT1"AT#DTMFCFG=8,2500,1500"?</b> to the GSM intercom and wait for a reply.</li> <li>2. After receiving the reply send the SMS command <b>1111RBT</b> then wait for the GSM intercom to reboot.</li> <li>3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.</li> </ol>
	<p>If the option above doesn't resolve the issue then try the following:</p> <ol style="list-style-type: none"> <li>1. Send the following SMS command <b>1111AT1"AT#DTMFCFG=7,2300,1300"?</b> to the GSM intercom and wait for a reply.</li> <li>2. After receiving the reply send the SMS command <b>1111RBT</b> then wait for the GSM intercom to reboot.</li> <li>3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.</li> </ol>
	<p>If neither of the above solutions resolve the problem then please contact Videx technical on tel: <b>0191 224 3174</b> for further assistance. For overseas customers contact Videx customer support on tel: <b>(+39) 0734 631 699</b> for further assistance.</p>

**IMPORTANT NOTE:** The suggestions covered in this troubleshooting section primarily covers the system checks to try for the GSM module. Since the GSM module will be connected to a functional or digital panel it is always recommended that you also refer to the troubleshooting section on any accompanying technical documents for the intercom panel being installed, as there may be solutions to the problems that you've encountered covered in those documents that may not necessarily be covered above.

# General Information

## FIRMWARE REVISION

DATE	FIRMWARE VERSION	REVISION
08/11/18	VER MD1.1.1	Launch of Art.2270 VX2200 GSM Interface Module
24/05/19	VER MD1.1.2	Firmware update to include new programming commands: <ul style="list-style-type: none"> <li>• Requires PC software version 4.x.x.x or later.</li> <li>• Added Access control timebands, access levels and free access timebands.</li> <li>• Added remote event logging via the <a href="http://www.videxevents.co.uk">www.videxevents.co.uk</a> portal.</li> <li>• Added new SMS commands for programming free access timebands and programming multiple telephone numbers. Added SMS commands ready for new app.</li> <li>• Timebands can now be set for individual days of the week.</li> <li>• New commands –               <ul style="list-style-type: none"> <li>□ <b>STN</b> for programming all 4 number in single SMS.</li> <li>□ <b>S1R, S2R, S3R</b>, for programming up to 5 dial to opens in a single SMS.</li> <li>□ <b>DET</b> for deleting a <b>DTO</b> number without knowing it's location.</li> <li>□ <b>1111FOB"0"/"12345"</b> – storing a fob in the next free location.</li> <li>□ <b>ATB</b> Access control time bands (Up to 10).</li> <li>□ <b>ACC</b> Access levels (Up to 10).</li> <li>□ <b>FRE</b> Free access for any of the outputs (Up to 10 periods).</li> <li>□ <b>FRD</b> Delete all free access periods.</li> </ul> </li> </ul>
20/09/19	VER MD1.1.3	Firmware updates include: Fixed double == on <b>SDL</b> SMS reply, fixed <b>BAL</b> issue where message not returned when querying via SMS. New SMS feature added: <ul style="list-style-type: none"> <li>□ <b>LLA</b> command to prevent a latched output being unlatched by <b>DTO</b> or pressing release during a call. SMS unlatch can still be used.</li> </ul> Fixed bug with mem location 256 being stored in mem location 512.

## FURTHER READING

Additional programming information using the GSMSK PC software can be found in the following technical manual:

- **GSMSK\_66251720-EN\_V2-0** (or later version)

Additional VX2200 system setup and programming information can be found in the following technical manual:

- **VX2K2HDIGSYS - Technical Manual Version 1.1** (or later version)

Additional VX2200 cabling information can be found in the following technical manual:

- **VX2200Blocks 1-2**

Other accompanying Technical Documents for any VX2200 system component, which may include (but not limited to):

- **VX2200 Functional Intercom Panels** (refer to table on page 6 for compatible panel types)
- **VX2200 Digital Intercom Panels** (refer to table on page 6 for compatible panel types)
- **VX2200 Audio devices** (3000 series audiophones, 5000 series hands-free apartment stations and audio Kristallo series)
- **VX2200 Video devices** (6200, 6300, 6400 and 6700 series videophones, 5000 series hands-free video Eclipse and video Kristallo series)

Additional information regarding connection to mains supply voltage can be found in the following regulations (for the UK only):

- **I.E.E. Wiring Regulations BS7671**

For overseas customers it is recommended that you consult with the relevant governing body for the appropriate regulations and standards of your country.

**ENG DISPOSAL**

In accordance with the Legislative Decree no. 49 of 14 March 2014 "Implementation of the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE)".

The crossed-out bin symbol on the equipment or on the packaging indicates that when the product reaches the end of its lifetime, it must be collected separately from mixed municipal waste. The user must, therefore, dispose of the equipment at the end of its lifetime in the suitable waste collection centres or bring it to the retailer during the purchase of a new equipment of equivalent type at the ratio of one-to-one. Furthermore, the user is allowed to dispose of the WEEEs of very small size (domestic appliances without any external dimension exceeding 25 cm (9.84 inches) for free to the retailers, without any purchase obligation. The correct waste disposal of the WEEEs contributes to their reuse, recycling and recovery and avoids potential negative effects on the environment and human health due to the possible presence of dangerous substances within them.

**ITA SMALTIMENTO**

Ai sensi del Decreto Legislativo 14 marzo 2014, n° 49 "Attuazione della direttiva 2012/19/UE sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE)".

Il simbolo del cassonetto barrato riportato sull'apparecchiatura o sulla sua confezione indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti urbani misti. L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita presso gli idonei centri di raccolta differenziata oppure riconsegnarla al rivenditore al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente, in ragione di uno a uno. L'utente ha, inoltre, la possibilità di conferire gratuitamente presso i distributori, senza alcun obbligo di acquisto, per i RAEE di piccolissime dimensioni (per le apparecchiature di tipo domestico con nessuna dimensione esterna superiore a 25 cm). L'adeguata raccolta differenziata dei RAEE contribuisce al loro riutilizzo, riciclaggio e recupero ed evita potenziali effetti negativi sull'ambiente e sulla salute umana dovuti alla eventuale presenza di sostanze pericolose al loro interno.

**FRA ÉLIMINATION**

Conformément au décret législatif n° 49 du 14 mars 2014 relatif à l'« Application de la directive 2012/19 / UE relative aux déchets d'équipements électriques et électroniques (DEEE) ».

Le symbole de la poubelle barrée sur l'équipement ou sur son emballage indique que le produit en fin de vie utile doit être collecté séparément des autres déchets municipaux en mélange. L'utilisateur doit donc remettre l'équipement en fin de vie aux centres de collecte appropriés ou le restituer au revendeur lors de l'achat d'un nouveau type d'équipement équivalent, dans le rapport de un à un. De plus, l'utilisateur a la possibilité de conférer gratuitement aux distributeurs, sans aucune obligation d'achat, de très petits DEEE (pour les appareils ménagers sans dimensions extérieures supérieures à 25 cm). La collecte séparée adéquate des DEEE contribue à leur réutilisation, leur recyclage et leur valorisation et évite les éventuels effets négatifs sur l'environnement et la santé humaine en raison de la présence possible de substances dangereuses dans ceux-ci.

**SPA ELIMINACIÓN**

De conformidad con el Decreto legislativo n. 49 de 14 de marzo 2014 "Aplicación de la Directiva 2012/19/UE relativa a residuos de aparatos eléctricos y electrónicos (RAEE)".

El símbolo del contenedor tachado indicado sobre los aparatos o sobre los embalajes señala que el producto al final de su vida útil debe ser recogido separadamente de otros residuos municipales mezclados. Por tanto, el usuario deberá conferir los aparatos al final de su vida útil en los apropiados centros de recogida selectiva o devolverlos al revendedor al momento de la compra de nuevos aparatos equivalentes, en una relación de uno a uno. Además, el usuario tiene la posibilidad de entregar sin cargo a los distribuidores, sin ninguna obligación de compra, los RAEEs muy pequeños (para electrodomésticos sin dimensiones externas superiores a 25 cm).

La recogida selectiva apropiada de los RAEEs contribuye a su reutilización, reciclaje y valorización y evita potenciales impactos negativos sobre el medio ambiente y la salud humana debidos a la posible presencia de sustancias peligrosas dentro de ellos.

**NLD VERWIJDERING**

In overeenstemming met het Wetsbesluit nr. 49 van 14 maart 2015 "Implementatie van de Richtlijn 2012/19/EU inzake afgedankte elektrische en elektronische apparaten (AEEA)".

Het doorgeslechte vuilnisbaksymbool op het apparaat of de verpakking geeft aan dat het product aan het einde van zijn levensduur niet samen met het gewone huisvuil weggegooid mag worden. De gebruiker moet het apparaat aan het einde van zijn levensduur inleveren bij een gepast inzamelpunt of de winkel waar hij een nieuw apparaat van een gelijksoortig type zal kopen. De gebruiker kan tevens AEEA's van een zeer klein formaat (huishoudapparaten met een buitenafmeting kleiner dan 25 cm (9,84 inch)) gratis en zonder enige aankoopverplichting bij handelaars inleveren. Een juiste verwijdering van AEEA's draagt bij tot hergebruik, recycling en terugwinning, en voorkomt potentiële negatieve effecten op het milieu en de menselijke gezondheid door de mogelijke aanwezigheid van gevaarlijke stoffen.

<b>MANUFACTURER</b> <b>FABBRICANTE</b> <b>FABRICANT</b> <b>FABRICANTE</b> <b>FABRIKANT</b> الشركة المصنعة	<b>VIDEX ELECTRONICS S.P.A.</b> Via del Lavoro, 1 63846 Monte Giberto (FM) Italy Tel (+39) 0734 631669 Fax (+39) 0734 632475 www.videx.it - info@videx.it	
<b>CUSTOMER SUPPORT</b> <b>SUPPORTO CLIENTI</b> <b>SUPPORTS CLIENTS</b> <b>ATENCIÓN AL CLIENTE</b> <b>KLANTENDIENST</b> خدمة العملاء	<b>VIDEX ELECTRONICS S.P.A.</b> www.videx.it - technical@videx.it Tel: +39 0734-631669 Fax: +39 0734-632475	UK Customers only: <b>VIDEX SECURITY LTD</b> www.videxuk.com Tech Line: 0191 224 3174 Fax: 0191 224 1559
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يحمل المنتج علامة التوافق الأوروبي CE لإظهار توافقه مع المواصفات ذات الصلة وإمكانية توزيعه في كافة دول الاتحاد الأوروبي بدون أية قيود. يلبي هذا المنتج جميع متطلبات التوجيهات الأوروبية 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS); علامة المطابقة للمواصفات الأوروبية 93/68/EEC.



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