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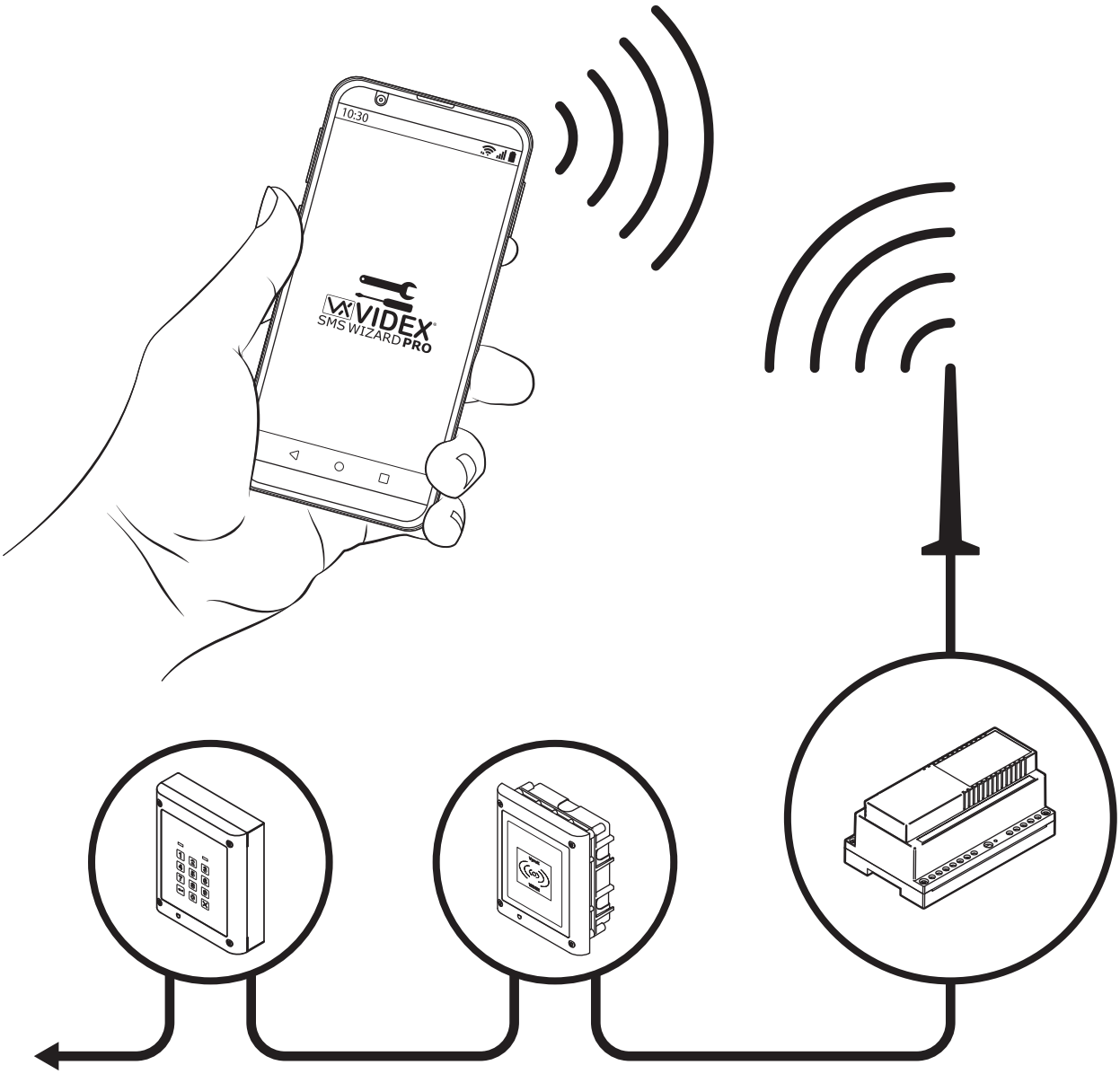
VIDEX
THE POWER TO SECURE

VX2200 4G GSM MODULE

GSM Interface Module for the VX2200 Digital System

ART. 2270/4G

4G



Technical Manual

66251245-4G-EN
V1.1 - 27/06/22

We recommend
This equipment is installed by a Competent Electrician, Security or Communications Engineer.

Declaration of Conformity

EU RoHS DECLARATION OF CONFORMITY

4G version

SIMCom certifies that the LTE/HSPA/GSM/GNSS module (model no. SIM7600G-H, SIM7600G-H miniPCIE) is in conformity with the essential requirements of **RE Directive 2014/53/EU** of the European Parliament and the Council of 16th April 2014 on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment and repealing **Directive 1999/5/EC**.

RE Directive 2014/53/EU :

Applied / Complied Harmonized Standards		Complied
Article 3(1)(a) ■ Safety	EN 62368-1:2014 + A11:2017	**Y**
Article 3(1)(a) ■ Health	EN 62311:2008	**Y**
Article 3(1)(b) ■ EMC	EN 301 489-1 V2.2.3 EN 301 489-19 V2.1.1, EN 301 489-52 V1.1.0 EN 55032:2015, EN55035:2017	**Y**
Article 3(2) ■ Radio	EN 301 511 V12.5.1, EN 303 413 V1.1.1 EN 301 908-1 V11.1.1, EN 301 908-2 V11.1.2 EN 301 908-1 V11.1.2*, EN 301 908-13 V11.1.2	**Y**
*Note: This is a non-harmonized radio standard accepted by the RED (Radio Equipment Directive)		

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. (UK)** 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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The product is CE marked demonstrating its conformity and is for distribution within all member states of the EU with no restrictions. This product follows the provisions of the European Directives 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS): CE marking 93/68/EEC.

The product is UKCA marked demonstrating its conformity and is for distribution within the UK. This product follows the provisions of the following UK legislation: Electromagnetic Compatibility Regulations 2016; Electrical Equipment (Safety) Regulations 2016; Radio Equipment Regulations 2017 and The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS).

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Introduction

MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the **Art.2270/4G** 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.2270/4G 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*** and for all overseas customers on tel: +39 0734 631669 or via email: ***technical@videx.it.***

A copy of this Technical Manual can also be downloaded from the Videx websites: For UK customers ***www.videxuk.com*** and for overseas customers ***www.videx.it.***

SYSTEM INTRODUCTION

The **Art.2270/4G** GSM module is designed to work on the same technology as mobile phones, specifically a 4G network, however it is compatible with both 2G and 3G networks. As the 4G GSM is a global module it can be used around the world. It is also designed to interface with the VX2200 digital 2 wire bus system. It enables a call to be made from a 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, 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.6276** 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). Features of the system include:

- Program up to 180 users (phone ID's 1 to 180) each with 4 programmable telephone numbers (1 primary and 3 divert numbers, land line or mobile numbers).
- Programmed numbers can be used in conjunction with Videx's VX2200 audiophones and/or videophone range.
- 3 dry contact relay outputs (**R1**, **R2** and **R3**) and 3 switched 0V auxiliary inputs (**A1**, **A2** and **A3**).
- 3 programmable automated SMS messages triggered by the auxiliary inputs (**A1**, **A2** and **A3**).
- 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 (DTO) facility for each relay output (**R1**, **R2** and **R3**), including up to 32 temporary DTO numbers for relay **R1** only. This feature enables up to 1000 DTO numbers (000 - 999) for relay **R1** and 500 DTO numbers each (000 - 499) for relays **R2** and **R3** respectively, 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 phone ID timeband facility (a single timeband only).
- Programmable access control timeband facility (up to 10 timebands).
- Programmable free access timeband facility (up to 10 timebands) for relay outputs **R1**, **R2** and **R3**.
- Up to 10 programmable access levels (for relay **R1** DTO numbers, proximity and coded access facility (when connected to **Art.4850R** proximity readers and/or **Art.4903** keypads via RS485).
- Automatic time correction features and daylight saving time adjustment.
- Micro USB connection for ease of programming using the **GSMSK** PC software (version 4.1.0.36 or later).
- RS485 bus for connecting additional **Art.4903** keypads and/or **Art.4850R** proximity readers (up to a maximum of 8 devices), also for connecting **Art.2813** RS485 remote relays (up to a maximum of 64 remote relay units). The RS485 bus can also be used for ease of programming using the **GSMSK** PC software.
- When connected via RS485 to the **Art.4903** keypad allows up to 400 permanent access codes and 32 temporary access codes to be programmed with access control timeband and access level features.
- When connected via RS485 to the **Art.4850R** proximity reader allows up to 2000 fobs/cards to be programmed with access control timeband and access level features.
- Includes a facility to remotely program the GSM module 'over the air' using the **GSMSK** PC software without the need to actually connect a PC or laptop directly to the intercom via the USB or RS485 connections.
- 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 (refer to notes **user management** on page 61).
- Integrated bootloader function for updating GSM module's firmware via the **GSMSK** PC software.

Introduction

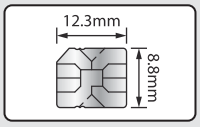
Programming of the telephone numbers (primary, diverts and DTO's) and additional features including fobs/cards for any additional proximity readers, programming access codes for additional coded keypads, timebands, access levels etc. can be carried out via text messaging (refer to notes **programming the GSM module** on pages 29 - 55) or using the **GSMSK** PC software (refer to the manual **GSMSK_66251720-EN_V2-2** or later) by direct USB or RS485 connection to a PC or remotely via the 'over the air' feature (the PC software can still be used to program the GSM intercom, but the PC is not directly connected to it via the USB or RS485 connection, further details can be found on pages 46 - 47).

Alternatively a limited number of programming features can be carried out using the **Videx SMS Wizard** (for users) or for more in depth programming using the **Videx SMS Wizard PRO** (for installers), refer to notes **the GSM mobile Apps** on page 56.

SIM CARD SELECTION

IMPORTANT: A SIM IS REQUIRED FOR THIS PRODUCT BUT NOT SUPPLIED BY VIDEX.

THE ART.2270/4G GSM MODULE CAN ONLY ACCEPT A NANO SIZE SIM CARD, BOTH A STANDARD SIZE SIM AND MICRO 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 regarding this contact the SIM card provider or visit their website, **as this is a service NOT provided by VIDEX**.

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*** and follow the onsite links to their online mobile coverage tool *(**ofcom mobile and broadband 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 15 digit serial number of the 4G GSM module. This number is located internally on the main hardware chip inside the GSM module. To obtain the IMEI number from the GSM module refer to the programming notes **obtain the GSM's IMEI number** on page 45 - 46.

PRECAUTIONARY ADVICE

- When mounting the GSM antenna, choose a location which is away from human interaction and away from the intercom panel. Route the GSM antenna cable from the intercom panel so that it is separate from the power supply cables and microphone wire.
- Always ensure the power is switched **OFF** to the intercom panel 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 website or by calling their customer services. Recommended SIM card providers are: **Vodafone**, **Three**, **O_2** or **EE**.
- To be able to receive text messages from the intercom panel, the SIM card will require an SMS service centre number. This is normally pre-installed 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 **O_2** this can be done while the SIM card is in the intercom panel. For other network providers the SIM card must be removed from the intercom panel, inserted into a mobile phone and the mobile phone menu instructions followed. This procedure may vary between network providers of different countries, therefore we suggest contacting your provider for more information regarding this.
- When storing the GSM intercom panel'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 GSM intercom panel. 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.**

⚠ **IMPORTANT: ALL NETWORK PROVIDER AND SERVICES CONFIGURATION CODES MENTIONED IN THIS MANUAL ARE SPECIFIC FOR THE UK ONLY. 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 selecting the SIM with the chosen network provider it is recommended that it is setup with a suitable call allowance and text messages (most UK network providers offer unlimited calls and texts) and also a sufficient data plan. You will need to contact the network provider directly or visit their website to set this up.

⚠ **IMPORTANT NOTE: THE SERVICES MENTIONED ABOVE ARE NOT PROVIDED BY VIDEX ELECTRONICS S.P.A. OR VIDEX SECURITY LTD.**

System Components

DESCRIPTION

For the **Art.2270/4G** 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), nano SIM card (refer to notes on **Sim Card Selection** on pages 5 - 6) and an **Art.434** GSM antenna.

Like other devices for the digital VX2200 2 wire bus system the **Art.2270/4G** 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 (version 4.1.0.36 or later), also refer to the programming manual **GSMSK_66251720-EN_V2-2** (or later).

COMPATIBLE VX2200 INTERCOM PANELS

The following table shows the range of VX2200 intercom panels that can be used with the **Art.2270/4G** GSM module:

Functional Panel Type	Description
Art.4203-n, Art.4204-n, Art.4204X-n (audio)	4000 series modular range audio panels, where n = **0**, **1**, **2**, **1D** or **2D** buttons. When using the audio panel the appropriate 4000 series button module(s) may be required (**Art.4842..Art.4845**, **Art.4842D.. Art.4845D**, **Art.4042..Art.4045** and **Art.4042D..Art.4045D**) depending on the size of the system.
Art.4283-n, Art.4284-n, Art.4284X-n (audio & video)	4000 series modular range video panel, where n = **0**, **1**, **2**, or **1D** buttons. When using the video panel the appropriate 4000 series button module(s) may be required (**Art.4842..Art.4845**, **Art.4842D.. Art.4845D**, **Art.4042..Art.4045** and **Art.4042D..Art.4045D**) depending on the size of the system.
Art.8203-n (audio)	8000 series modular range audio panel, where n = **0**, **1** or **2** buttons. When using the audio panel the appropriate 8000 series button module(s) may be required (**Art.8842..Art.8845** and **Art.8842D.. Art.8845D**) depending on the size of the system.
Art.VR4KAM2W-n (audio)	Vandal Resistant 4000 series modular range audio panel, where n = **0**, **1**, **2**, **3** or **1NP** buttons. When using the audio panel the appropriate VR4K series button module(s) may be required (**Art.VR4KBM-4.. Art.VR4KBM-9**, **Art.VR4KBM-2NP..Art.VR4KBM-4NP**) depending on the size of the system.
VR120/138-n (audio)	Vandal Resistant VR120 series audio panel, where n = the number of call buttons required (**up to 24**).
VR120/138-n/CL (audio + codelock)	Vandal Resistant VR120 series audio panel with codelock facility, where n = the number of call buttons required (**up to 24**).
VR120/138-n/PR (audio + proximity)	Vandal Resistant VR120 series audio panel with proximity reader, where n = the number of call buttons required (**up to 24**).
VR120/138-n/V (audio & video)	Vandal Resistant VR120 series video panel, where n = the number of call buttons required (**up to 24**).
VR120/138-n/V/CL (audio & video + codelock)	Vandal Resistant VR120 series video panel with codelock facility, where n = the number of call buttons required (**up to 24**).
VR120/138-n/V/PR (audio & video + proximity)	Vandal Resistant VR120 series video panel with proximity reader, where n = the number of call buttons required (**up to 24**).
VR130/2W-n, VR130/2W-n/NP (audio & video)	Vandal Resistant VR130 series video panel (including nameplate window versions), where n = the number of call buttons required (**up to 24**).
VR130/2W-n/CL, (audio & video + codelock)	Vandal Resistant VR130 series video panel with codelock facility, where n = the number of call buttons required (**up to 24**).
VR130/2W-n, (audio & video + proximity)	Vandal Resistant VR130 series video panel with proximity reader, where n = the number of call buttons required (**up to 24**).
Digital Panel Type	**Description**
Art.4202 series (audio)	4000 series modular range, digital audio panel (with A-F alpha-numeric keypad, **Art.4202** or name scroll facility, **Art.4202/R**).
Art.4202V series (audio & video)	4000 series modular range, digital video panel (with A-F alpha-numeric keypad, **Art.4202V** or name scroll facility, **Art.4202/RV** or name scroll facility).
Art.8202 series (audio)	8000 series modular range, digital audio panel (with A-H alpha-numeric keypad, **Art.8202** or name scroll facility, **Art.8202R**).
SP300-1 series (audio)	Vandal Resistant 2200 digital audio panel and bezel box.
SP301-1C series (audio & video)	Vandal Resistant 2200 digital video panel with colour camera and bezel box.

System Components

Art.4212 series (audio)	Vandal Resistant 4000 series modular range, digital audio panel (with A-F alpha-numeric keypad, **Art.4212** or name scroll facility, **Art.4212R** and proximty). Including **Art.4212/UK** and **Art.4212R/UK**.
Art.4212V series (audio & video)	Vandal Resistant 4000 series modular range, digital video panel (with A-F alpha-numeric keypad, **Art.4212V** or name scroll facility, **Art.4212RV** and proximty). Including **Art.4212V/UK** and **Art.4212RV/UK.**

IMPORTANT NOTE: Intercom panel setup and configuration for the compatible panel types listed in the table above and 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.

ART. 434 GSM ANTENNA & ART. 434 BLOCK ANTENNA

The **Art.434** GSM antenna, **Fig.1,** connects to the SMA female bulkhead connection on the rear of the 4G GSM module, see **Fig.1** inset. A GSM antenna with an SMA male connector should be used. Also available to use with the **4G GSM** series modules is the **Art.434 block** antenna, **Fig.1** inset.

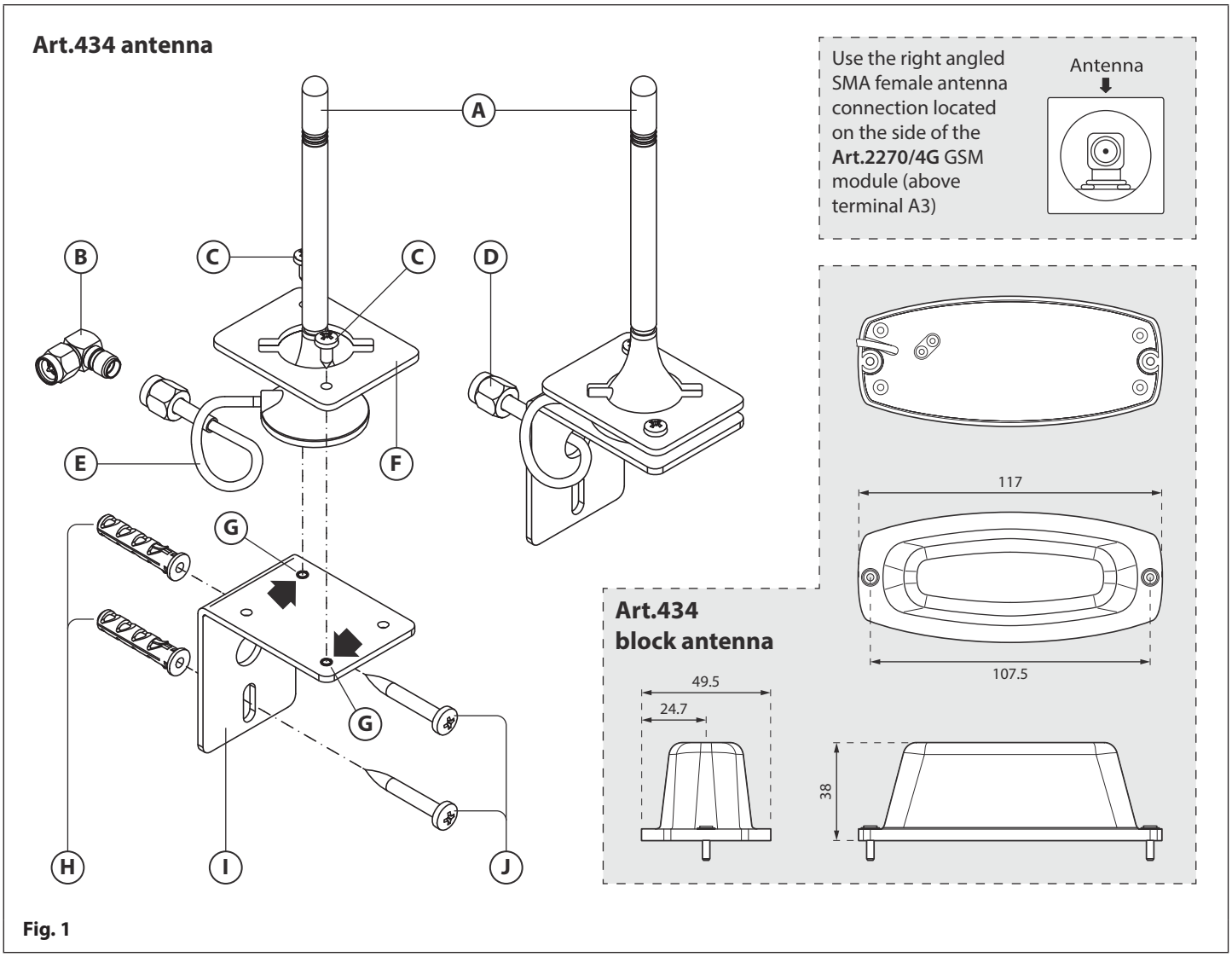


Fig. 1

ANTENNA PARTS

- (A) **"B"** type GSM antenna.
- (B) Right angled SMA adapter.
- (C) Self-threading screw (Ø2.9x6.5mm) for **"B"** type antenna.
- (D) SMA male antenna connector.
- (E) 3m antenna cable.
- (F) Antenna mounting clamp for L bracket.
- (G) Fixing support holes for **"B"** type antenna.
- (H) Expansion type wall plugs (Ø6mm).
- (I) Aluminium L bracket for wall mounting.
- (J) Self-threading screw (Ø4x30mm).

System Components

<u>IMPORTANT NOTE:</u> AN ANTENNA MUST ALWAYS BE FITTED FOR THE GSM MODULE TO WORK. ALWAYS ROUTE THE GSM ANTENNA CABLE AWAY FROM THE MICROPHONE WIRES AND THE POWER SUPPLY WIRES TO AVOID INTERFERENCE ON THE SPEECH CHANNELS.

IN INSTANCES WHERE THERE IS A TIGHT FITTING SPACE FOR THE SMA MALE CONNECTOR ON THE ANTENNA CABLE, THE RIGHT ANGLED SMA ADAPTER, FIG.5 (B), CAN BE USED TO HELP REROUTE THE CABLE DOWN THE BACK SIDE OF THE GSM MODULE.

ANTENNA CHARACTERISTICS		Art. 434 GSM ANTENNA	Art. 434 BLOCK ANTENNA
RF & ELECTRICAL SPECIFICATION	**Network coverage:**	**2G**, **3G** and **4G** networks	
	Working frequency:	GSM (900MHz), DCS (1800MHz)	AMPS (824-894MHz), GSM (900MHz), DCS (1800MHz), PCS(1900MHz), 3G (2100MHz), WiFi (2400MHz), 4G/LTE (791-862/2500-2690MHz)
	Gain:	3 ± 0.5dBi (avg.)	2 dBi (max.)
	Voltage Standing Wave Ratio (V.S.W.R.)	< 2.0	< 2.5:1
	Polarization:	Linear	
	Impedance:	50 Ohms	
DATA, MATERIALS & DIMENSIONS	**Cable:**	RG174 coax cable	
	Cable length:	3m	
	Connector:	SMA male	
	Materials:	Antenna hat: ABS Antenna body: ABS and PVC	Antenna Lid: ABS Antenna Base: metal
	Colour:	Black	
	Mounting:	external use, surface mount	internal or external use, surface mount
	Dimensions (mm):	120 (H) x 30 (base diameter)	38 (H) x 117 (L) x 49.5 (W)

12VDC 2A POWER SUPPLY (HDR-15-12)

The 4G GSM intercom is designed to work with power supplies in the range of 12Vdc and should be capable of supplying a constant current of no less than 1A.

The **Art.HDR15-12**, **Fig.2**, is a DIN rail mount slim line power supply that is supplied with the **4G GSM** series audiokits.

It has a mains voltage input of 230-240Vac, 50/60Hz and an adjustable 12Vdc output.

TERMINALS & ADJUSTMENT POTS	
L	Mains input 230-240Vac, 50/60Hz (live)
N	Mains input 230-240Vac, 50/60Hz (neutral)
+V	+12Vdc output
-V	0V (ground) output
Vo Adj.	Voltage adjustment POT (10.8V - 13.8Vdc range)

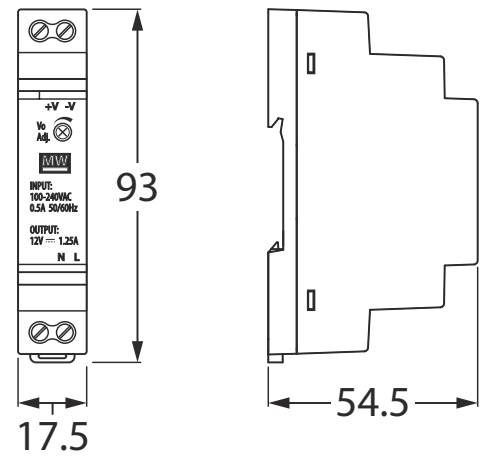


Fig. 2

SPECIFICATION

Housing:	1.5 modules A Type DIN box
Mounting:	DIN rail only
Dimensions (mm):	17.5 (W) x 93 (L) x 54.5 (H)
Working temperature:	-10° to +50°C

ELECTRICAL DATA

Mains voltage:	230-240Vac, 50/60Hz
Output voltage:	12Vdc
Adjustable voltage range:	10.8Vdc - 13.8Vdc (max.)
Current rating:	1.25A
Power rating:	15W

Technical Information

ART. 2270/4G GSM INTERFACE MODULE

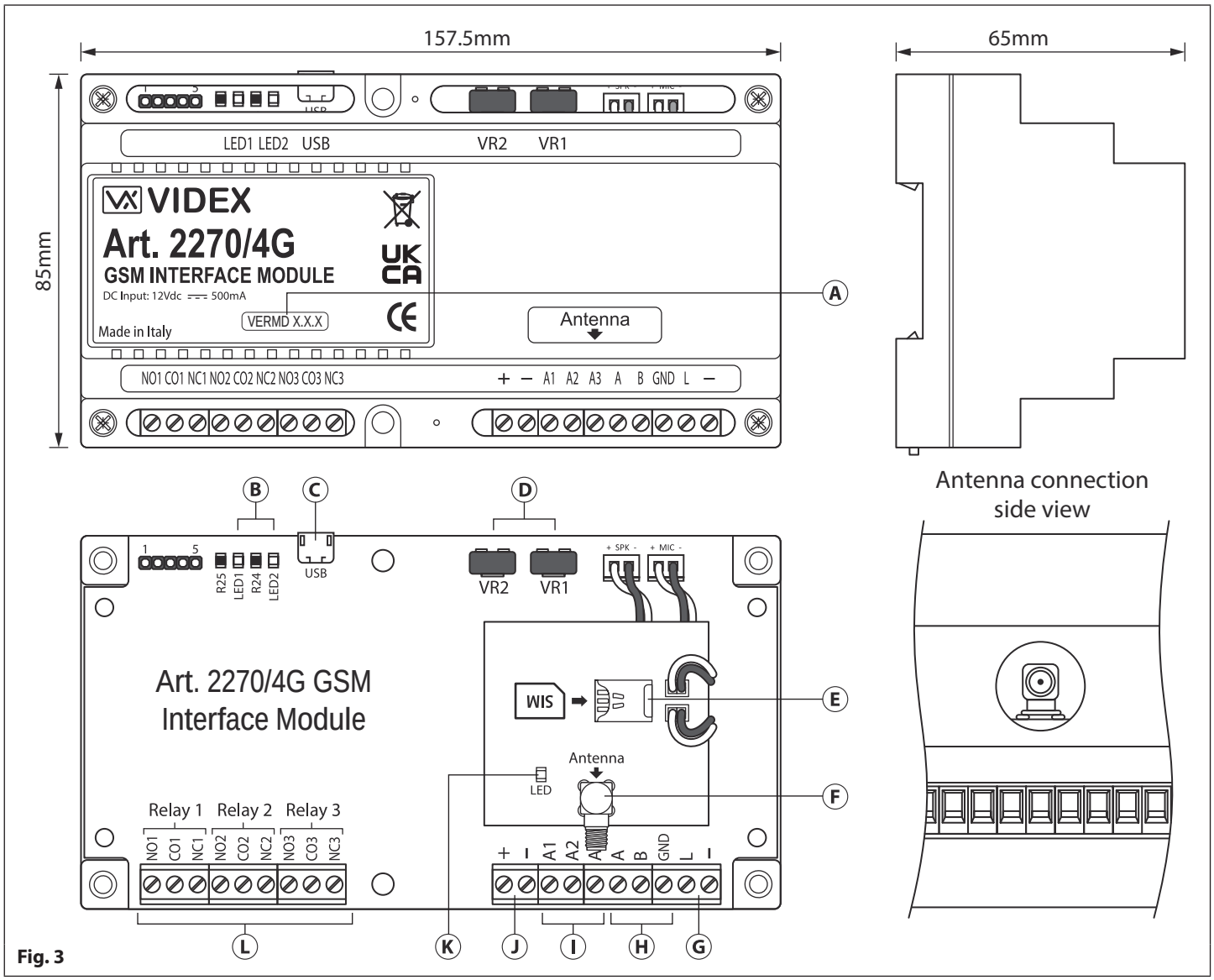


Fig. 3

LEGEND

- (A) Current firmware version (**VERDM X.X.X**)
- (B) Status indication LED's
- (C) Micro USB connection
- (D) **VR1** and **VR2** speech volume control POTs
- (E) SIM card holder (for 12.3mm x 8.8mm nano SIM)
- (F) SMA Antenna connection
- (G) **L** and **-** databus terminals
- (H) **RS485** bus terminals
- (I) Auxiliary input terminals **A1**, **A2** and **A3**
- (J) 12Vdc power input terminals
- (K) Power & network (**2G**, **3G** or **4G**) status indication LED
- (L) Relay outputs (**NO**/**CO**/**NC**) for relays **R1**, **R2** and **R3**

MODULE VOLUME ADJUSTMENT POTS (VR1 & VR2)

There are 2 volume adjustment POT's located on the top right side of the **Art.2270/4G** GSM module, **Fig.3**, (D). The **VR1** POT controls the speech volume towards the door panel (panel's speaker) and the **VR2** POT controls 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 nn). By default both **VR1** and **VR2** adjustment POTs are set 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).

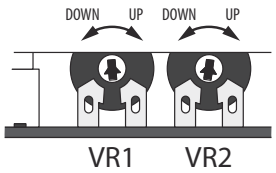


Fig. 4

Technical Information

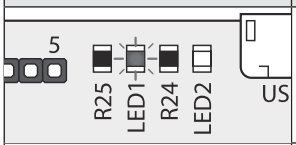
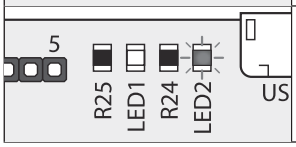
USB CONNECTION

The micro-USB connection allows the **Art.2270/4G** GSM module to be connected to a PC for ease of programming (refer to page 21 for connecting the GSM module to a PC). Further information on programming using the **GSMSK** PC software can be found in the following manual: **GSMSK_66251720-EN_V2-2** (or later version).

TERMINAL CONNECTIONS

Terminals	Description	
NO1, CO1 & NC1	Relay 1 contacts (normally open 1, common 1 and normally closed 1)	Relay 1, 2 and 3 contacts: 3A@24Vdc 3A@120Vac
NO2, CO2 & NC2	Relay 2 contacts (normally open 2, common 2 and normally closed 2)	
NO3, CO3 & NC3	Relay 3 contacts (normally open 3, common 3 and normally closed 3)	
+	+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
	During 'power up' the red LED (LED1) will flash continuously while trying to connect the **Art.2270/4G** 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.
	The green LED (LED2) will flash whenever it sees data on the **L** and **-** bus connection (when the **Art.2270/4G** 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.

TECHNICAL SPECIFICATION

Working Voltage:	12Vdc +/- 10%	**Working Current:**	60mA (standby), 500mA (max.)
Phone ID's (call buttons):	1 up to 180 (max.)	**Telephone Numbers per ID:**	4 numbers (1 primary, 3 diverts)
Dial to Open Numbers:	1000 DTO for **R1**, 500 DTO each for **R1** & **R3**, (2000 DTO numbers in total), inc. up to 32 temp. DTO for **R1** only.	**Status Indication LED's:**	main pcb = 2 (red LED1 power up/busy, green LED2 data), top SIM pcb = 1 (red LED power and network : **2G**, **3G** & **4G**)
USB Port:	micro USB	**RS485 Bus Connection:**	A, B and GND
Auxiliary Inputs:	**A1**, **A2** & **A3** (switched 0V input)	**Dry Contact Relays:**	**R1**, **R2** & **R3**, 3A @ 24Vdc, 3A @ 120Vac
Programming Method:	SMS messaging, **GSMSK** PC software including the **'over the air'** feature or GSM mobile apps - the Videx **SMS Wizard** (for users) or the Videx **SMS Wizard PRO** (for installers/engineers).	**Event Log:**	8000 stored events (unlimited via remote event logging facility)
Access Levels:	10 access levels (0 - 9) **ACC** for DTO numbers, code & proximity	**Free Access Timebands:**	10 free access timebands (0 - 9) **FRE** for relay **R1**, **R2** and **R3**
Timebands:	1 timeband **TBA** for phone ID's, 10 programmable timebands (0 - 9) **ATB** for DTO's, code & prox.	**Module Dimensions:**	157.5mm (W) x 85mm (L) x 65mm (D) - 9 modules A type DIN box
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.

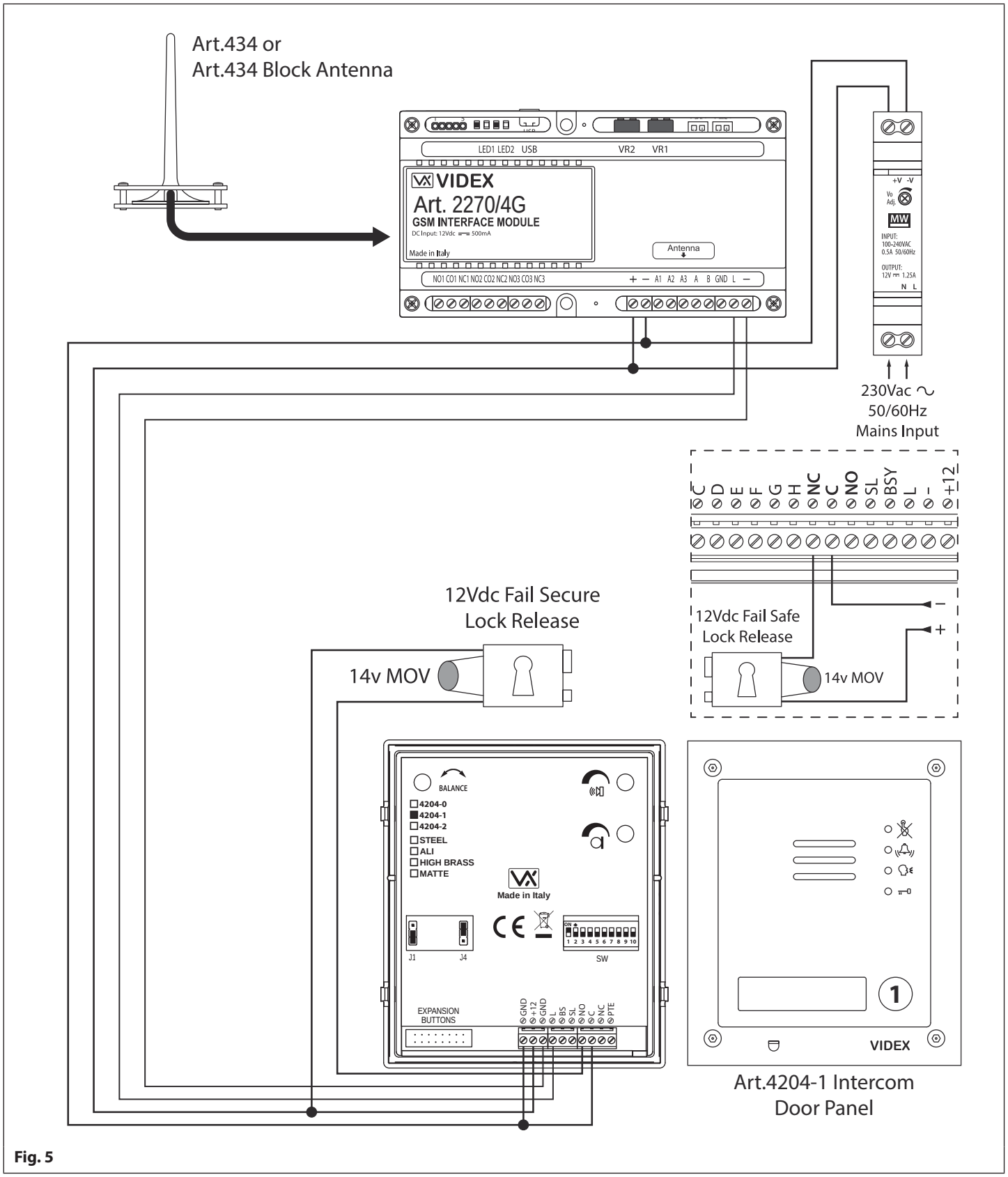


Fig. 5

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 the previous page, 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.

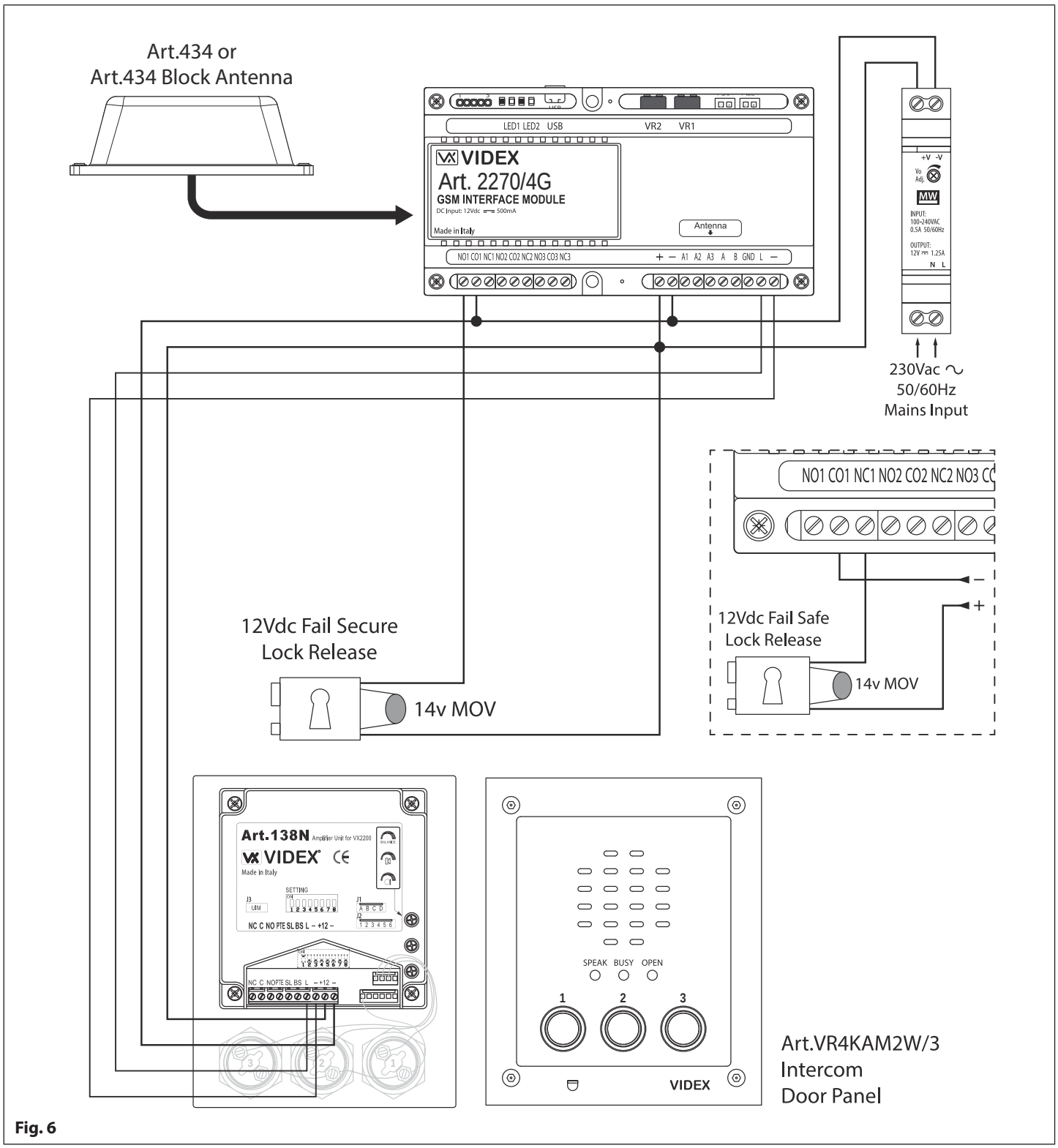


Fig. 6

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.4204X-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.

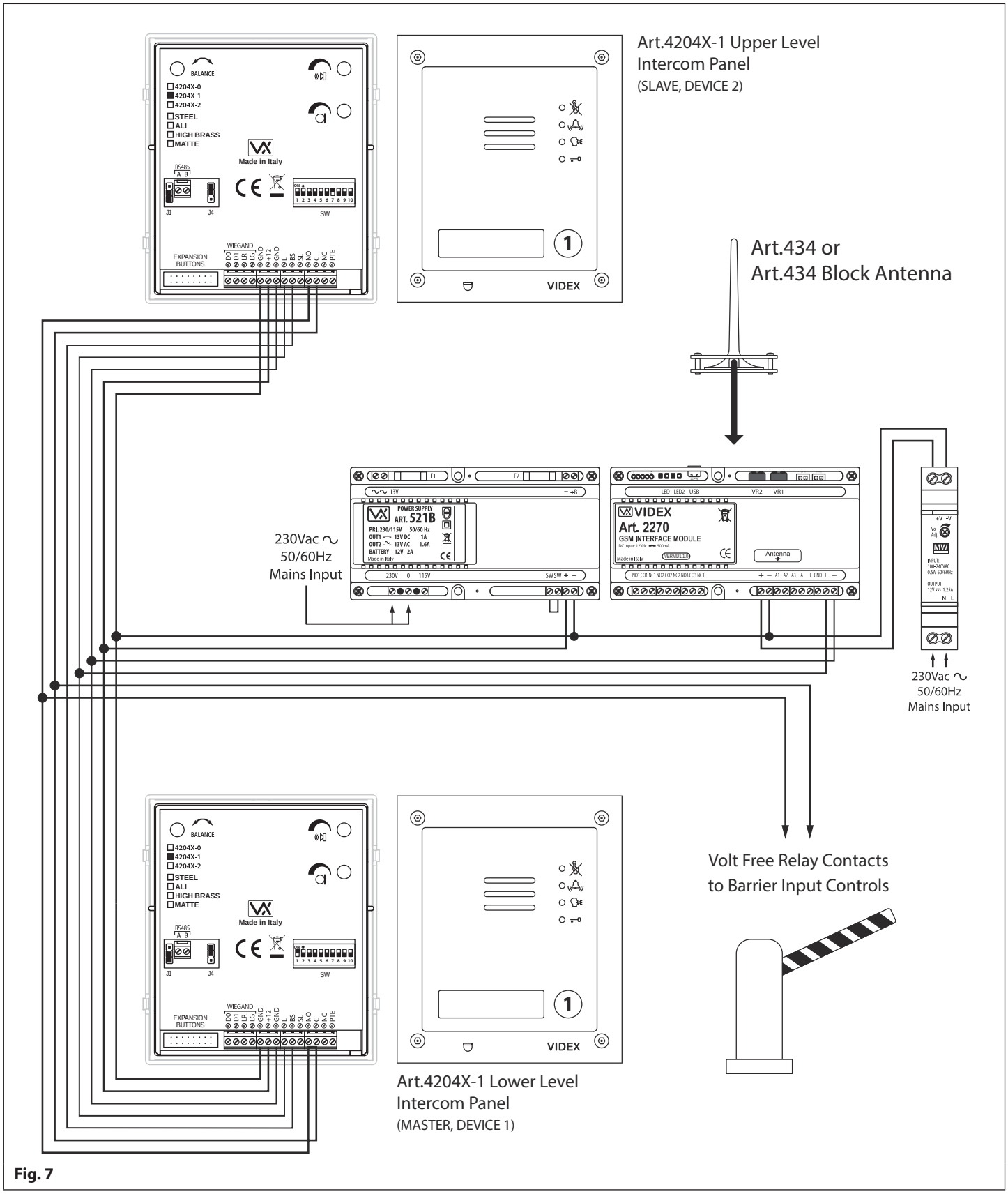


Fig. 7

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_V4.0** (or later).

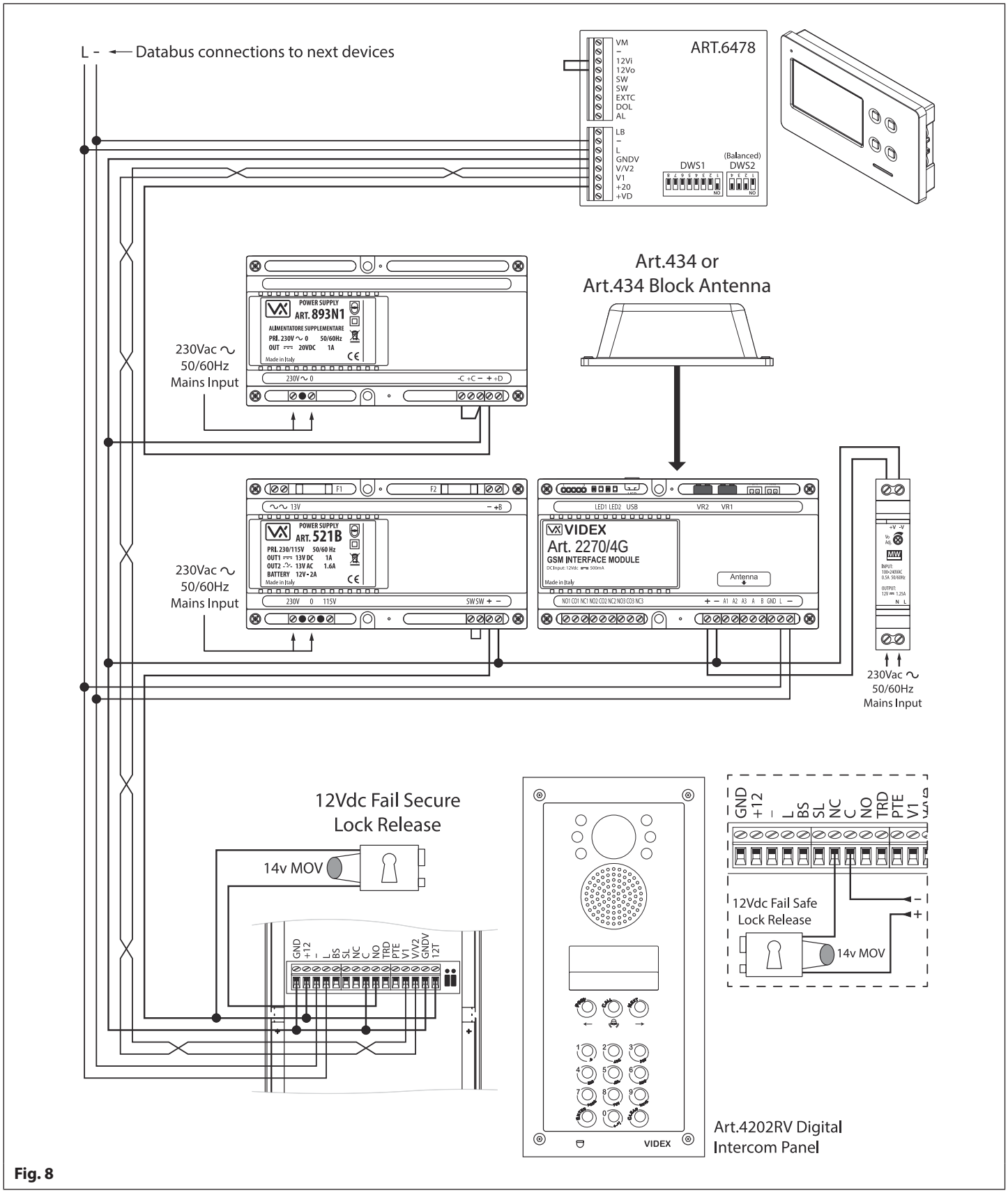


Fig. 8

Wiring Diagrams

DIGITAL INTERCOM PANEL CONNECTIONS (SECURED BY DESIGN LOCK WIRING)

The following wiring diagram, **Fig.9**, shows the connections for a digital panel, in this example an **Art.4212** digital panel with other connections for standard **Art.3171** audiophones. 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 digital panel's programming can be found in the following installation instructions: **66250203-EN_V4.2** (or later) and for the VX2200 system setup and configuration (inc. **Art.3171** setup) in the technical manual: **VX2K2HDIGSYS Version 1.1**.

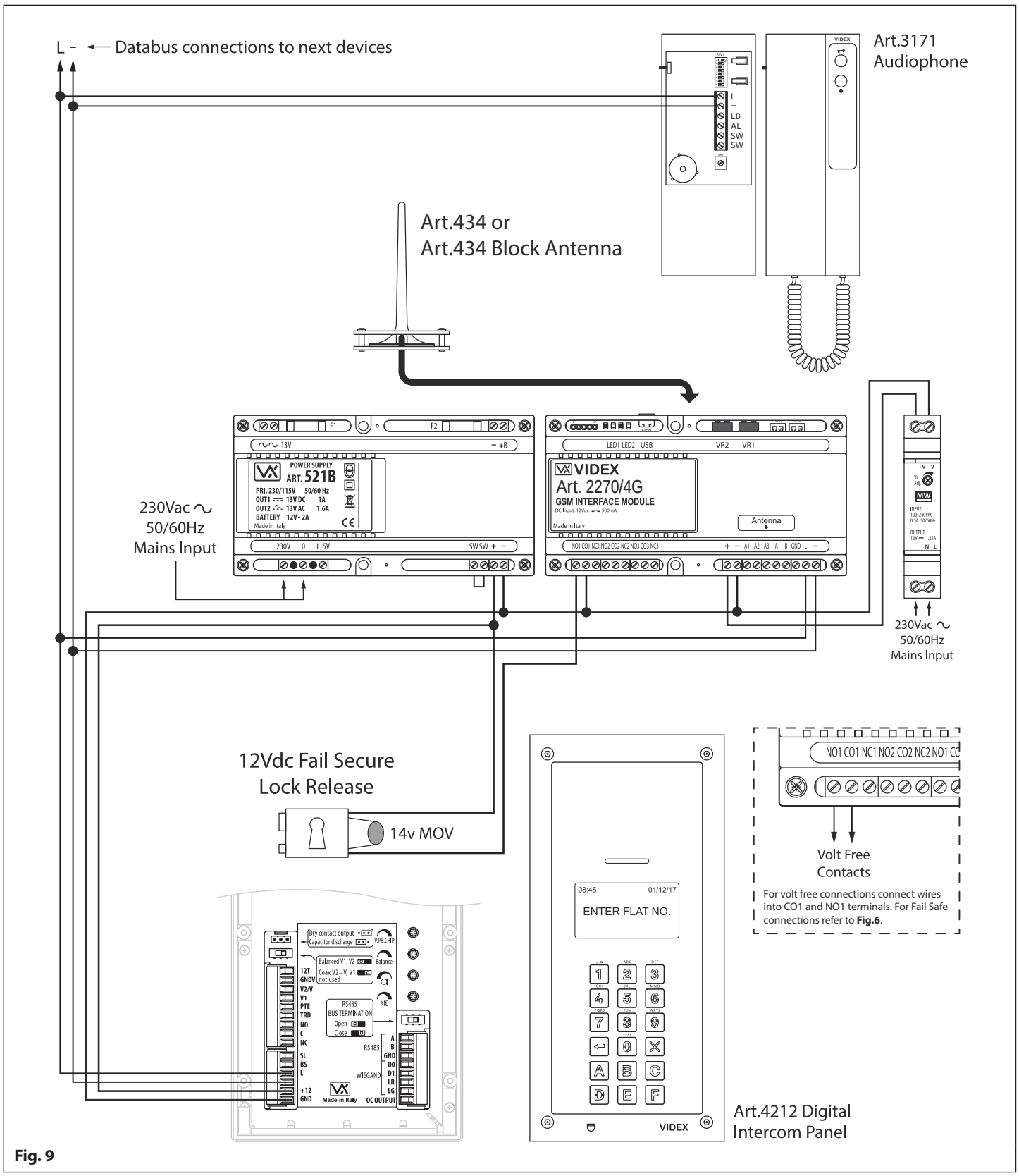


Fig. 9

Auxiliary Inputs & Relay Outputs

The **Art.2270/4G** 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 37 - 38. The auxiliary modes can also be programmed using the GSMSK PC software, please refer to programming manual **GSMSK_66251720-EN_V2-2** (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).

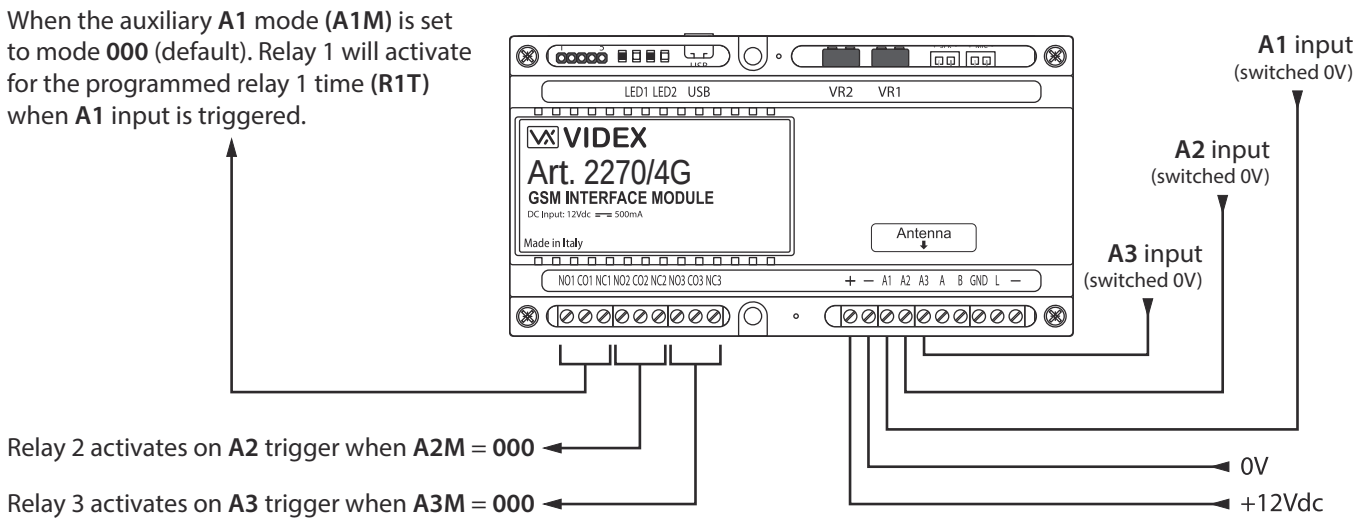


Fig. 10

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 auxilairy 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.

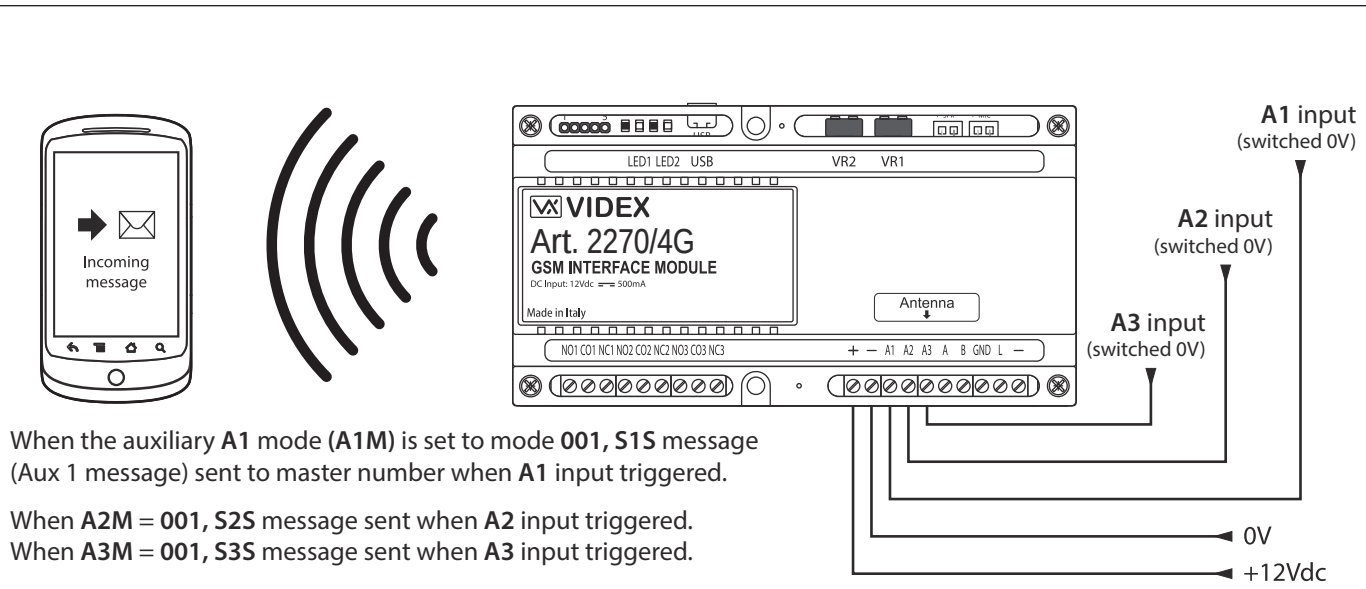


Fig. 11

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).

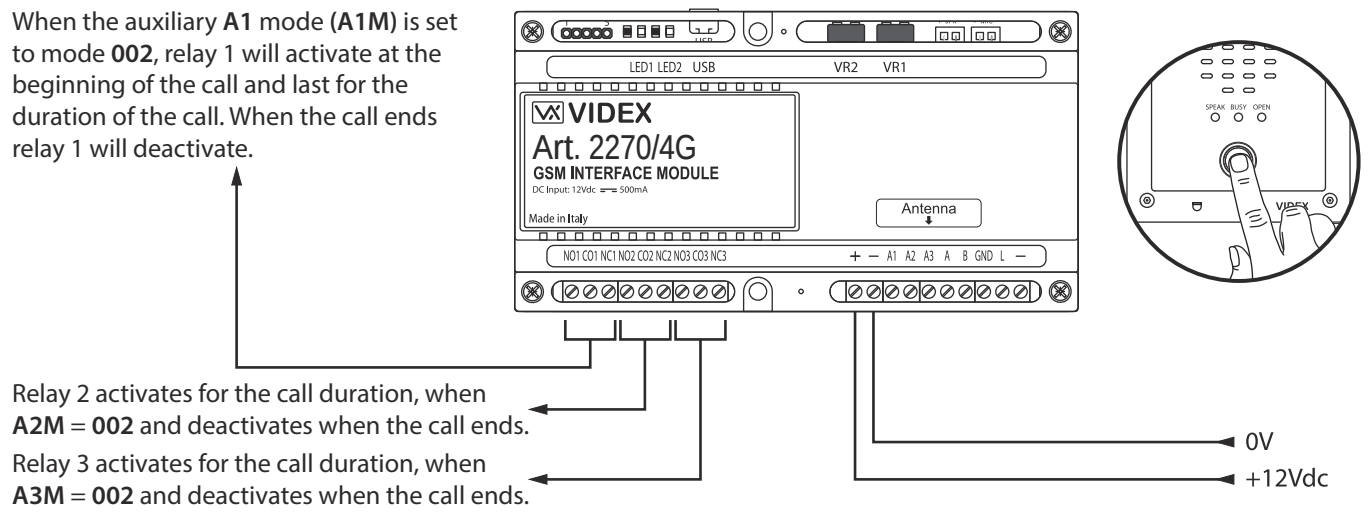


Fig. 12

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**).

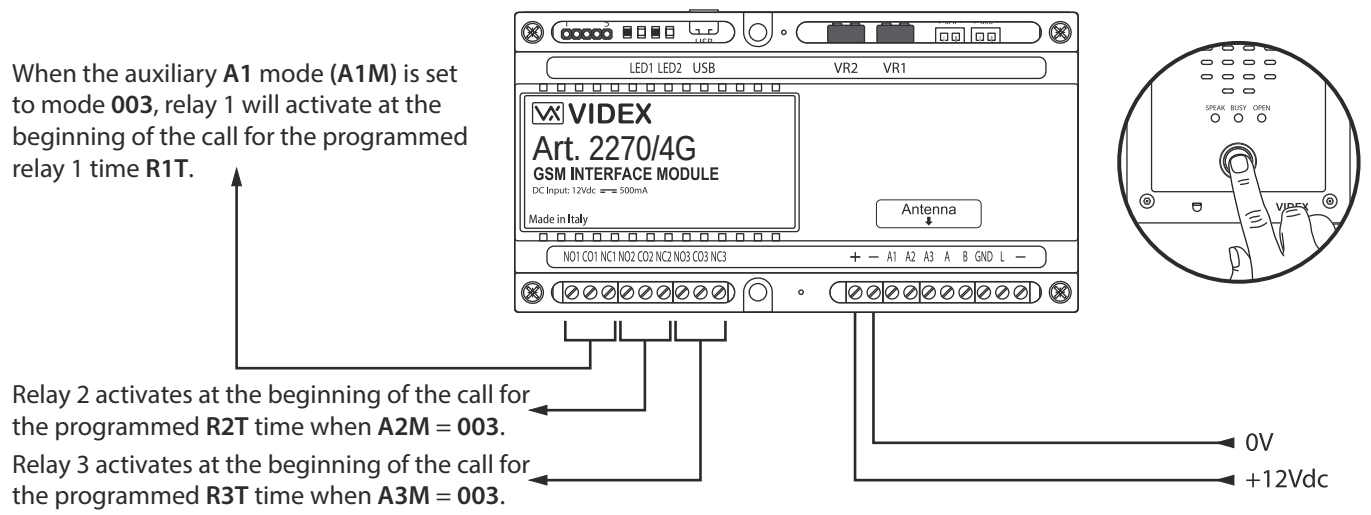


Fig. 13

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.2270/4G** 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**).

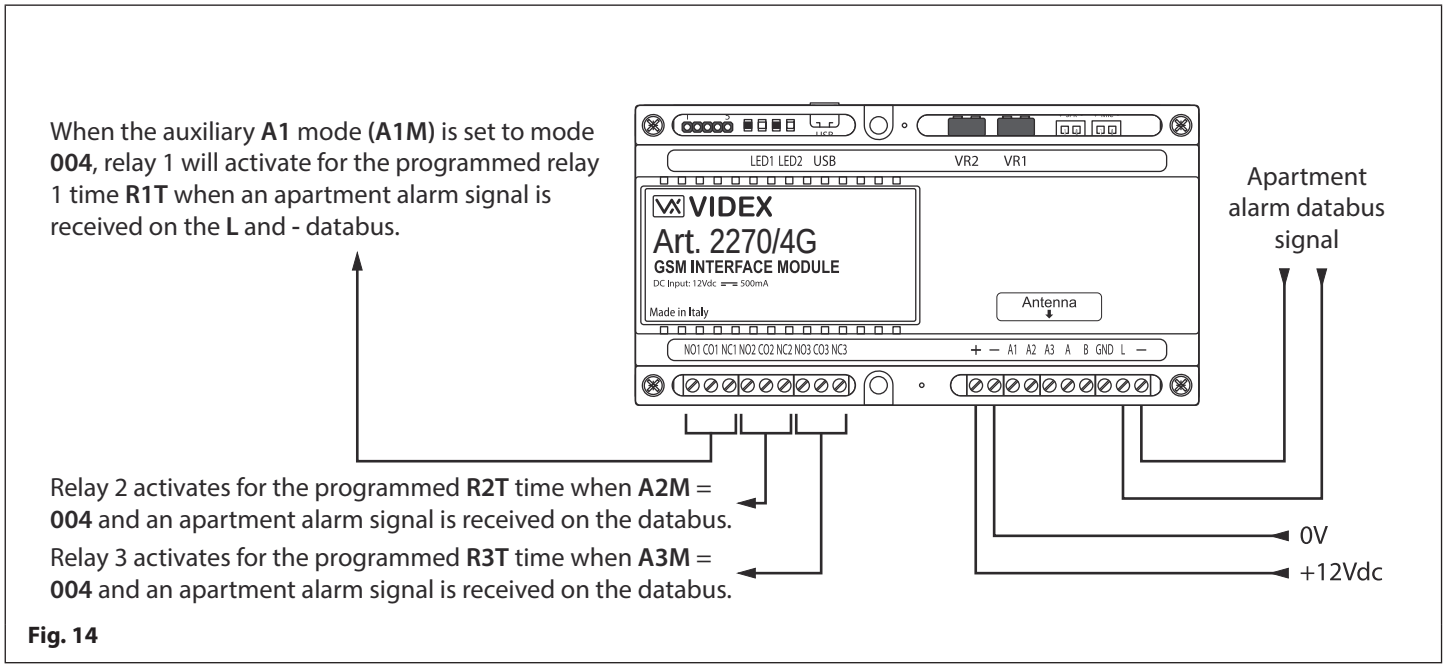


Fig. 14

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.2270/4G** 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 auxilairy 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.

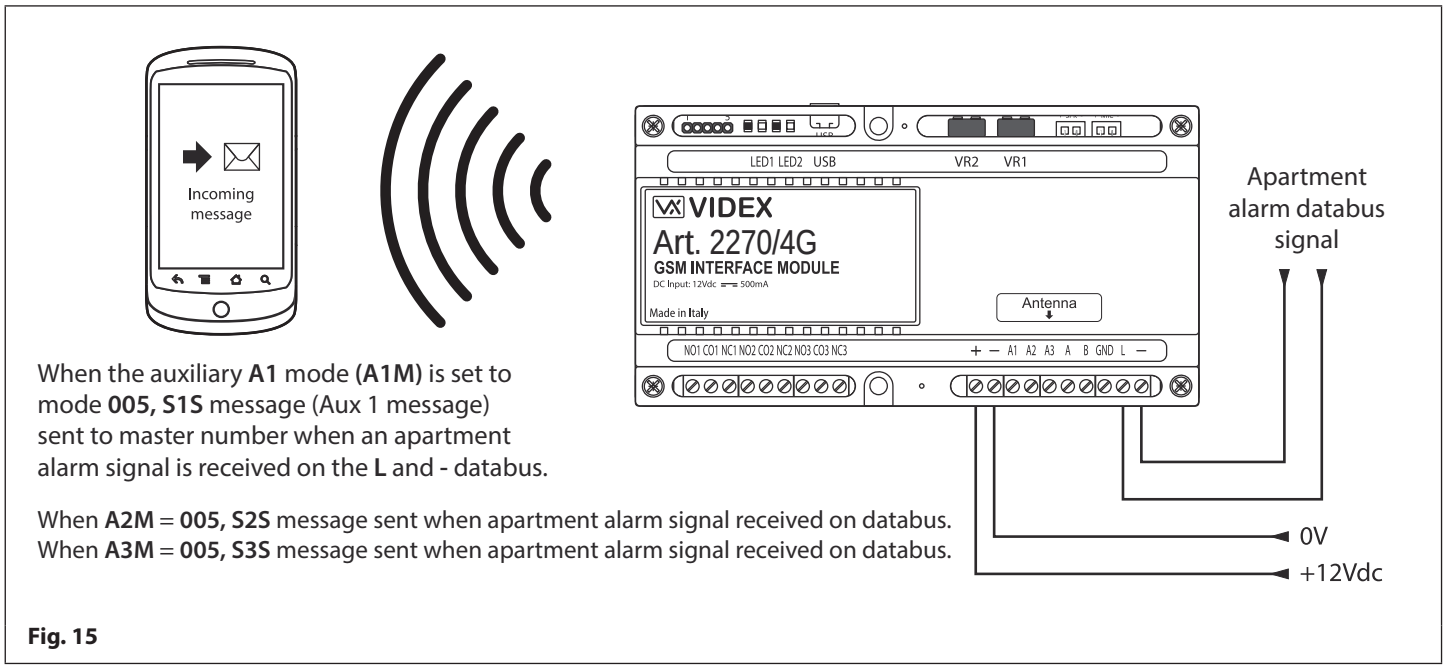


Fig. 15

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.2270/4G** 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 acompany the intercom panel.

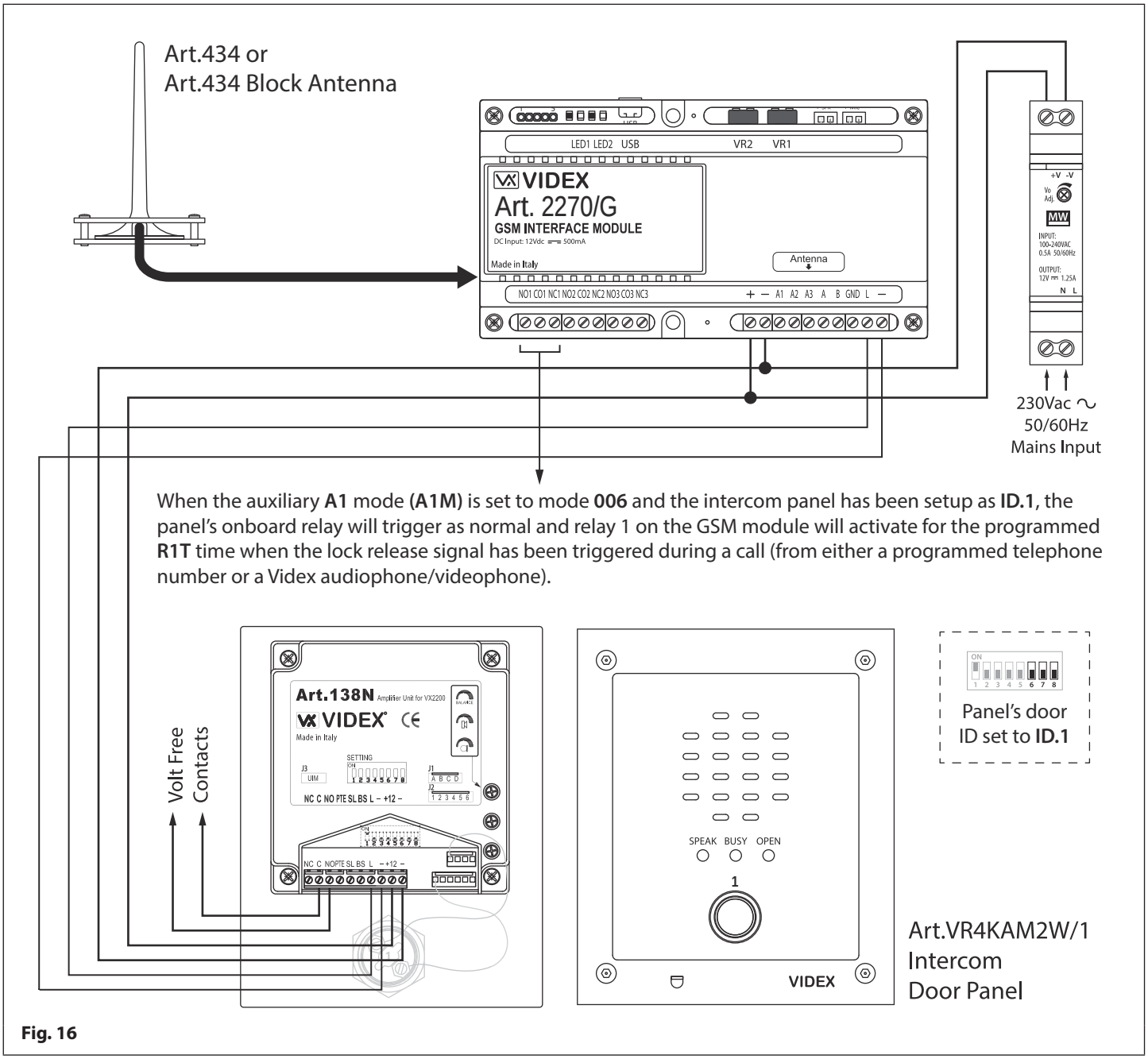


Fig. 16

<u>IMPORTANT NOTE:</u> 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 to a PC

CONNECTIONS TO A PC

The **Art.2270/4G** GSM module also includes two options for connecting directly 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 **GSMSK** PC software.

⚠ IMPORTANT: WHEN A USB CONNECTION IS PLUGGED INTO THE 2270/4G THE RS485 CONNECTION IS DISABLED.

All programming features described in this manual are also accessible using the software. Further information on using the **GSMSK** PC software can be found in the technical manual **GSMSK_66251720-EN_V2-2** (or later version).

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.

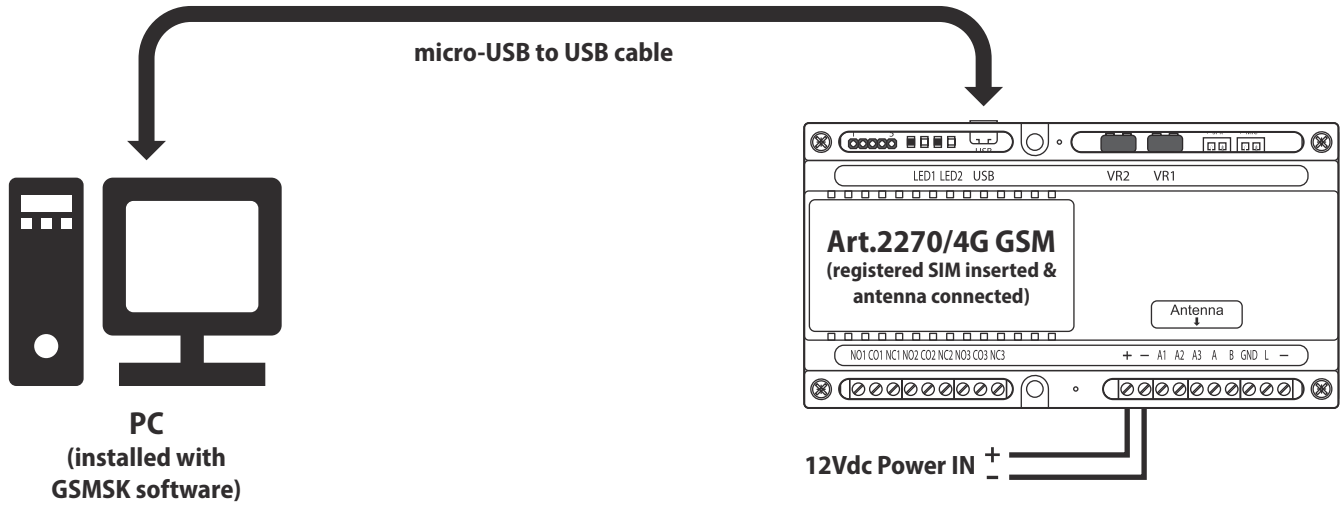


Fig. 17

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 <u>**cannot**</u> be connected on the same RS485 bus to the PC.

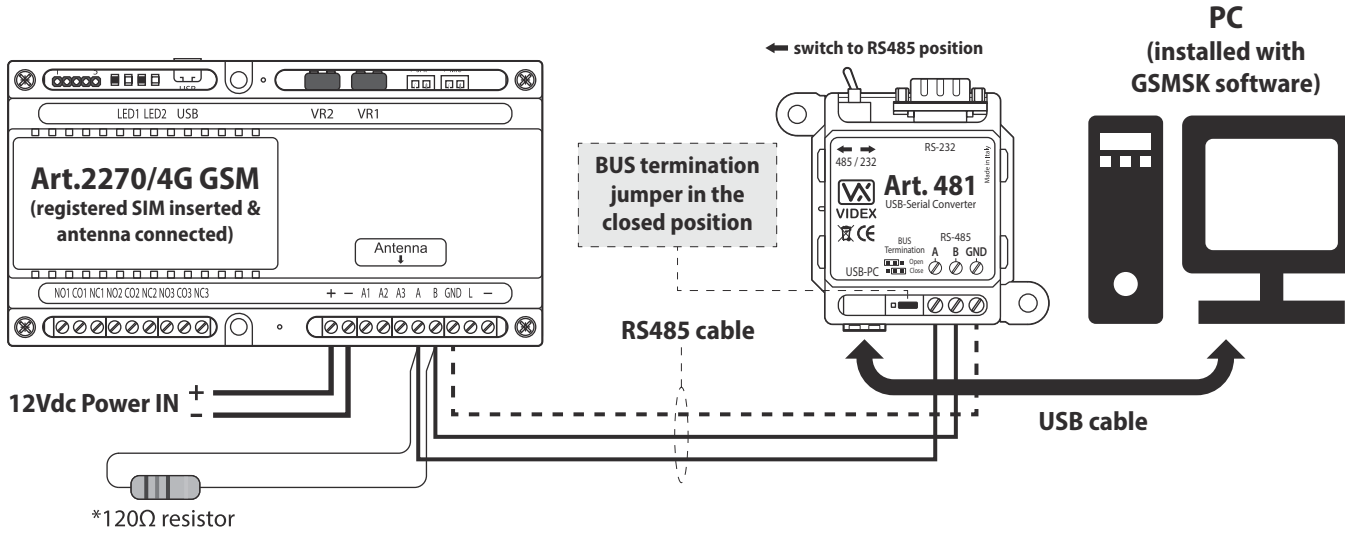


Fig. 18

*For end of line termination a 120 Ohm resistor must be fitted across the RS485 terminals A and B, as shown in **Fig.18**, but only if the **Art.2270/4G** GSM intercom is the last device in line and over a great distance (500m max.). Over shorter distances, less than 100m or so, the 120Ω resistor is not required and the bus termination jumper on the **Art.481** can be set to the **OPEN** position.

Connection to a Reader, Keypad or Relay

RS485 BUS CONNECTION TO AN ART.4903 KEYPAD OR AN ART.4850R EXPANSION READER

As previously mentioned the RS485 bus connection on the 4G GSM interface module not only allows it to be connected to a PC, via an **Art.481** RS485 to USB converter, but also allows the 4G GSM interface to be networked with both **Art.4903** keypads and **Art.4850R** proximity readers (up to a maximum of 8 devices), see **Fig.19**. When networked in this way additional features of the 4G GSM interface become available, which include the following:

When connected to an **Art.4903** keypad:

- The capacity to store up to 400 permanent access codes (000 - 399).
- Assign any of the 400 access codes to an access level (0 - 9).
- The capacity to store up to 32 temporary access codes.
- Allocate any of the 32 temporary codes to a specific time period (between 1 - 255 hours) after which time the code will be deleted (the time period which the access code is vaild for will only start counting down from when the code is first used).
- Assign any of the access codes, whether permanent or temporary, to trigger either of or both of the relays (**RLY1** and/or **RLY2** on the keypad).

When connected to an **Art.4850R** proximity reader:

- Capacity to store up to 2000 proximity fobs/cards (0000 - 1999).
- Assign any of the 2000 proximity fobs/cards to an access level (0 - 9).

Programming of the features described above for both the keypad and reader can be carried out by any of the following methods: sending SMS text messages, using the GSM mobile apps (the **Videx SMS Wizard** for administrators or for more in depth programming using the **Videx SMS Wizard PRO** for installers) or by using the **GSMSK** PC software including programming 'over the air' feature (refer to the manual **GSMSK_66251720-EN_V2-2** or later).

<u>IMPORTANT NOTE:</u> The Art.2270/4G can be networked with either Art.4903 keypads or Art.4850R proximity readers or a combination of both. The total number of networked devices (excluding the Art.2270/4G) on the RS485 bus should not exceed a total of 8 devices. The Art.4903 keypads and Art.4850R proximity readers must have a unit ID setup, instructions on how to setup the unit ID can be found in the accompanying installation instructions with the keypad or proximity reader.

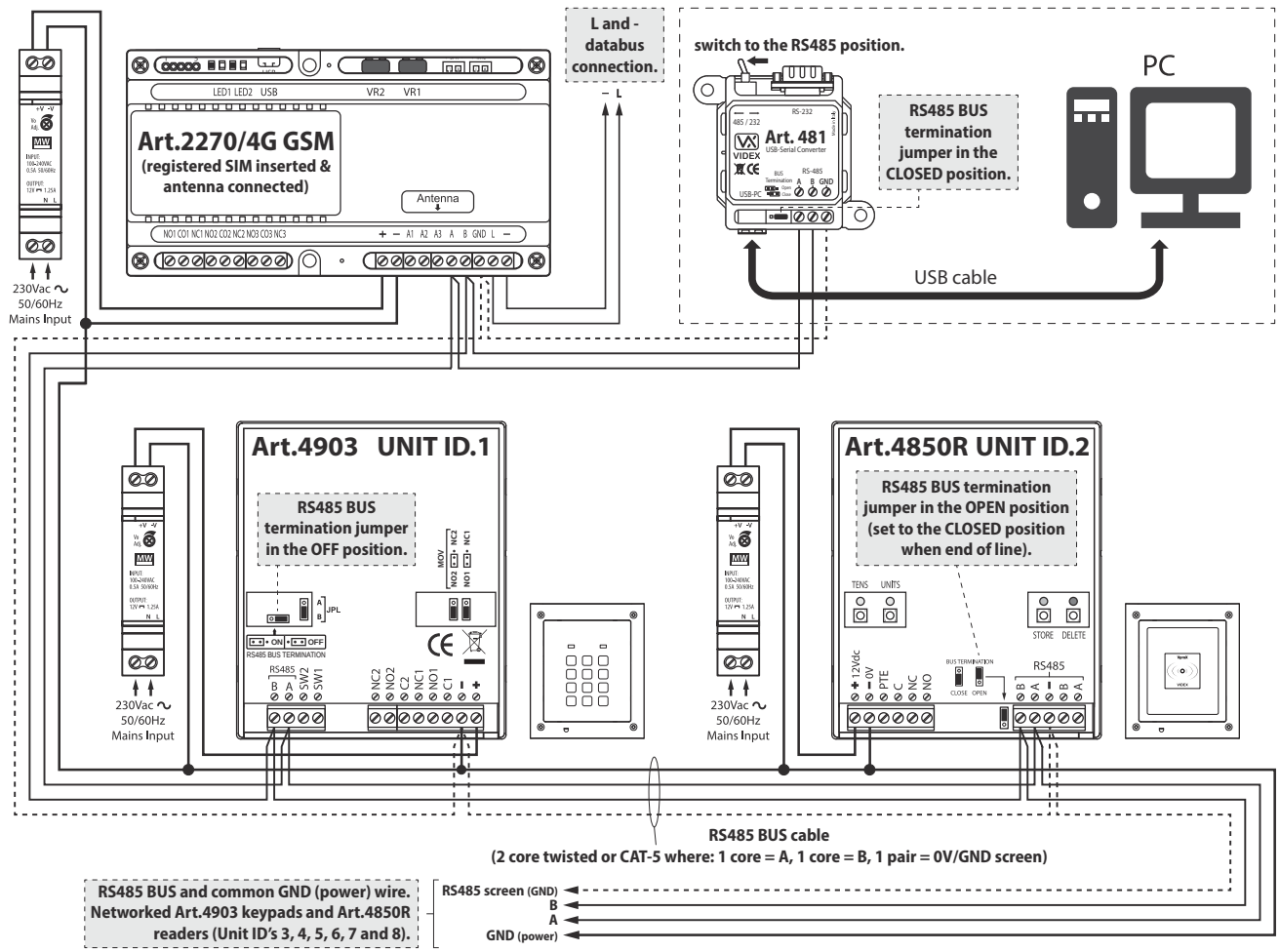


Fig. 19

Connection to a Reader, Keypad or Relay

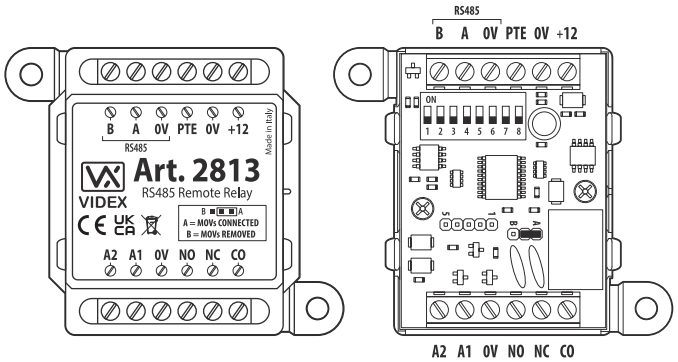
RS485 BUS CONNECTION TO AN ART.2813 REMOTE RELAY

Like both the **Art.4850R** reader and the **Art.4903** keypad the **Art.2813** remote relay, **Fig.20** can also be connected to the **Art.2270/4G** GSM interface via the RS485 bus terminals, **Fig.21**.

It has a single onboard relay with **NO**, **NC** and **CO** connections with a switched 0V PTE input to activate the relay and also includes two switched 0V auxiliary outputs **A1** and **A2.**

The onboard relay and both auxiliary outputs operating times can be programmed from 1 - 63 seconds or 0 for latch mode. Up to 64 device ID's (from **ID.00** to **ID.63**) can be set and where relay operating times and auxiliary output times (for **A1** and **A2**) can be set.

Programming the remote relay is carried out directly using its internal 8 way dip switch, further instructions on how to configure and setup the remote relay can be found in the installation instructions: **2813_66251545_V1-0** (or later).



dimensions (mm) : 66 x (W) x 60 (H) x 22 (D)

Fig. 20

The remote relay and the auxiliary outputs can be activated remotely by sending SMS text messages to the digital GSM (see notes on **programming the GSM module** on pages 29 - 55) or using the GSM mobile apps (see notes on **the GSM mobile apps** on page 56).

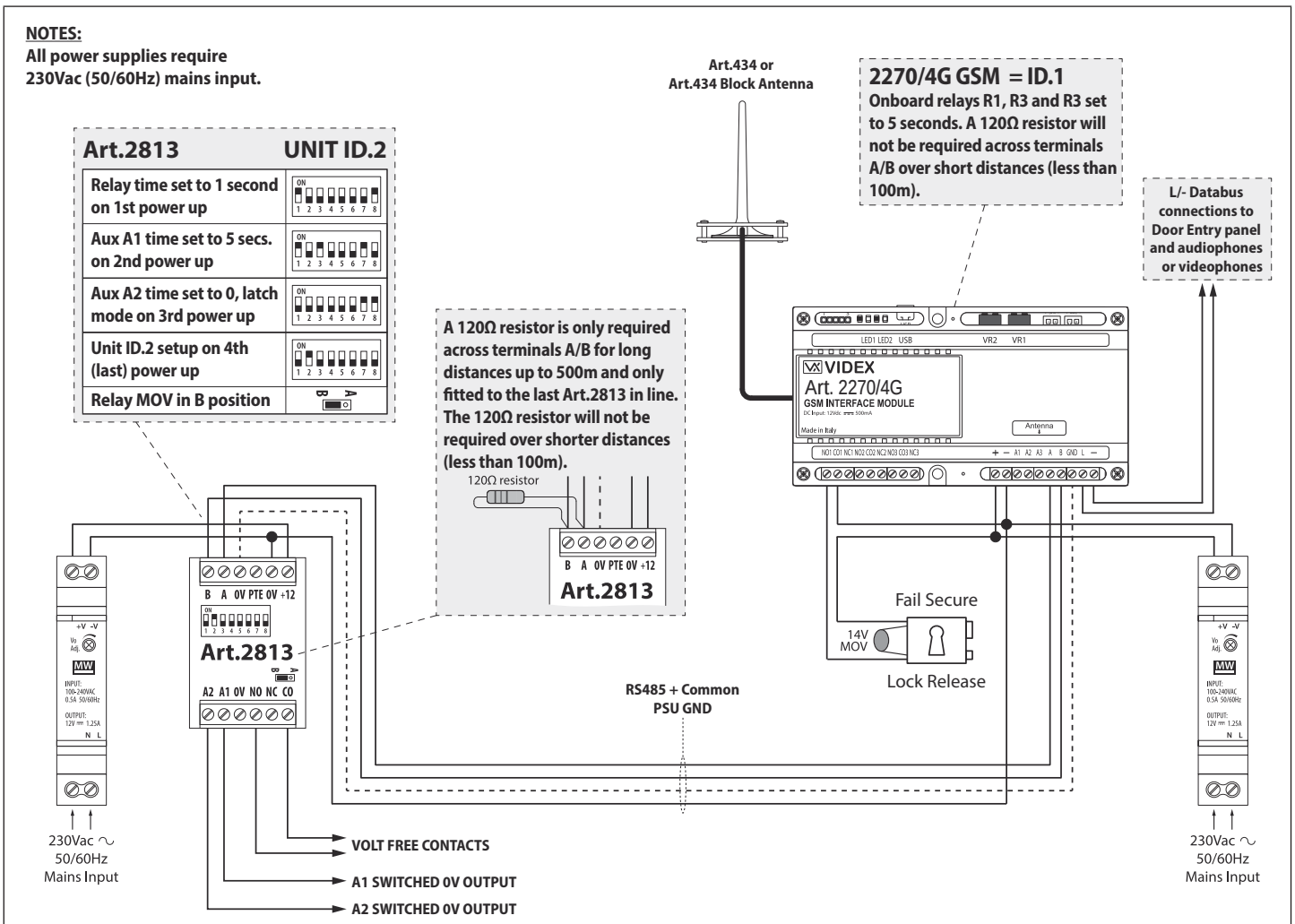


Fig. 21

SECURED BY DESIGN CONFIGURATION

If the remote relay is setup with the same device ID as the **Art.2270/4G** GSM interface, i.e. **ID.1** or setup with the same device ID as an **Art.4903** keypad or an **Art.4850R** proximity reader, it will then mirror their respective outputs (in the case of the GSM interface it will mirror the three relay outputs (**R1**, **R2** and **R3** respectively i.e. **remote relay** = **R1**, **aux A1** = **R2** and **aux A2** = **R3**) and for the keypad and proximity reader it will mirror the relay outputs) allowing for a **Secured by Design** configuration.

General Directions for Installation

CABLE SIZE GUIDE

Refer to the table below for the power supply output connections to the **Art.2270/4G** GSM module and the lock release connections.

Distance	20m	50m	100m
Cross Sectional Area (CSA)	0.5mm²	1.0mm²	1.5mm²

Ideally the power supply should be located as close to the GSM interface 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	0.4mm²	0.5mm²	0.75mm²	1.0mm²
-	0.4mm²	0.5mm²	0.75mm²	1.0mm²
V1 *	0.35mm²	0.5mm²	0.75mm²	1.0mm²
V2 *	0.35mm²	0.5mm²	0.75mm²	1.0mm²
+20V *	0.5mm²	0.75mm²	1.0mm²	1.5mm²
GNDV *	0.5mm²	0.75mm²	1.0mm²	1.5mm²
+12V	0.4mm²	0.75mm²	1.0mm²	1.5mm²
GND	0.4mm²	0.75mm²	1.0mm²	1.5mm²
All others **	0.25mm²	0.35mm²	0.5mm²	0.75mm²

* - 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, the **Art.481** or **Art.2270/4G**, and the last RS485 device in line (**Art.4850R**, **Art.4903** or **Art.2813**) **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 is in the **ON** or **CLOSED** position, in the case of the **Art.2270/4G** GSM interface or **Art.2813** relay a 120 Ohm resistor should be fitted across the **A** and **B** bus terminal connections as shown in **Fig.21**, page 23). If the overall RS485 bus distance is less than 100m or so then a 120 Ohm resistor is not required.

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.T. 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).

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.22**. 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.23**.

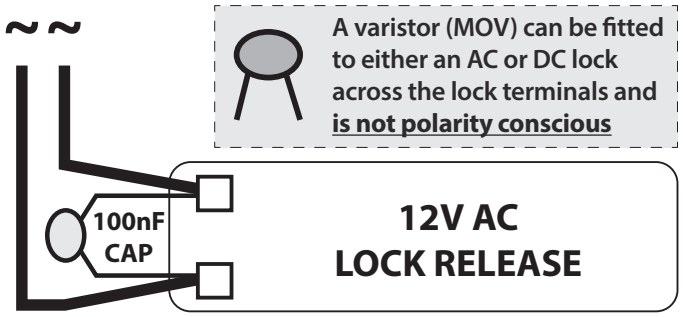


Fig. 22

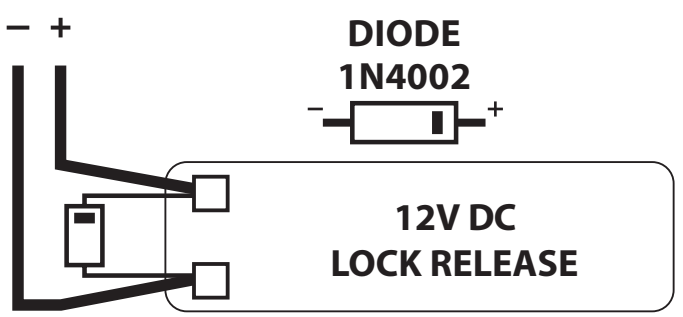


Fig. 23

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.22** 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 12 to 16.

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.T. regulations (in particular **I.E.T. Wiring Regulations, Eighteenth Edition BS7671:2018**, or later, 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.24**) 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 topside of the power supply).
- Isolating the mains before carrying out any maintenance work on the system.

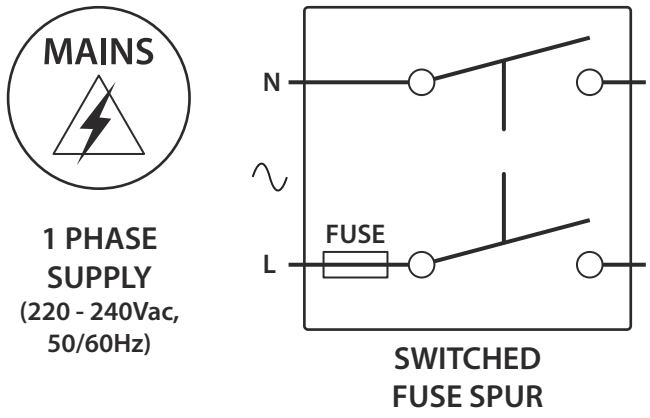


Fig. 24

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.25**, **Fig.26** and **Fig.27**).
- 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 12 - 16).

- 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.

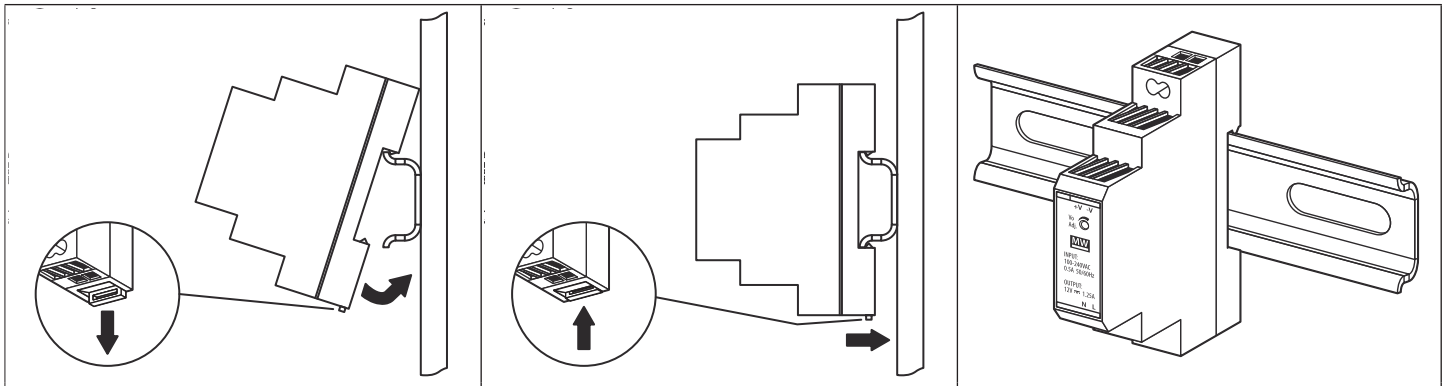


Fig. 25 **Fig. 26** **Fig. 27**

MOUNTING THE ART.2270 GSM MODULE

The **Art.2270/4G** GSM module can also be mounted following the same instructions for mounting a DIN type power supply (described above following **Fig.25**, **Fig.26** and **Fig.27**) and then making the necessary terminal connections shown in the wiring diagrams on pages 12 -16 (depending on the system setup and configuration).

<u>IMPORTANT NOTE:</u> When fitting the SIM card into the GSM interface 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 the next page.

Fitting the SIM & Connecting Power

FITTING THE SIM CARD AND CONNECTING THE POWER TO THE ART.2270/4G GSM MODULE

After installing the power supply, antenna, lock output and any other devices required (following the wiring diagrams on pages 12 - 16) 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 the previous page 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 5 and 6. Follow the steps below to insert the SIM card.

FITTING AND REMOVING THE SIM

Fitting the SIM:

1. Viewing the GSM interface from the top (with the lid removed) place the nano SIM on the SIM icon, with the SIM contacts facing down and following the SIM orientation, as shown in **Fig.28**.
2. Carefully, using your index finger, guide the nano SIM right, see **Fig.29**, into the SIM holder, see **Fig.30**.
3. Once the SIM is in place connect the GSM antenna and then connect the 12Vdc power supply wires but **DO NOT** power up the system yet.
4. Follow the initialisation process described below.

Removing the SIM:

1. Before removing the nano SIM disconnect the 12Vdc power to the GSM interface module.
2. To remove the SIM card carefully use the end of a small flat head terminal driver (indicated with the two arrows on the right side of the SIM holder where the edge of the SIM can be seen, **Fig.31**) and gently push the nano SIM to the left.
3. When the other side of the nano SIM sticks out of the SIM holder on the left side carefully use your index finger to slide the nano SIM out of the holder, **Fig.32**.

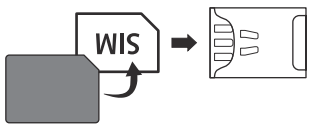


Fig. 28

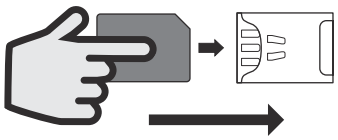


Fig. 29

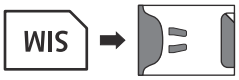


Fig. 30

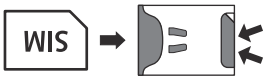


Fig. 31

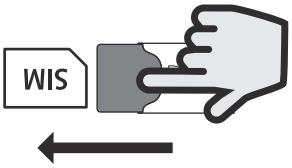


Fig. 32

POWER UP INITIALISATION SEQUENCE FOR THE ART.2270/4G GSM MODULE

The **Art.2270/4G** 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.33**.
3. After this the red LED (LED1) will continue to flash while it registers with the chosen network, as shown in **Fig.34**.
4. After a further delay the red LED (LED1) will stop flashing, as shown in **Fig.35**, to indicate that the GSM module has registered with the network and is ready to begin programming.

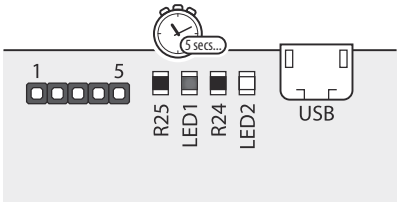


Fig. 33

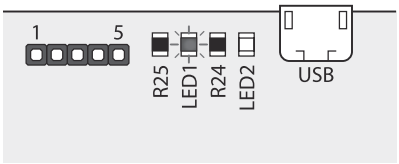


Fig. 34

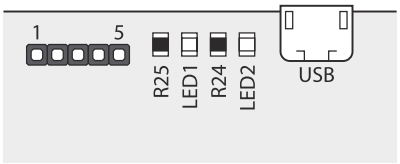


Fig. 35

Reset Procedure

RESETTING THE ART.2270/4G 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, access codes, proximity fobs/cards 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.36**.
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.37**.
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 rest 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.

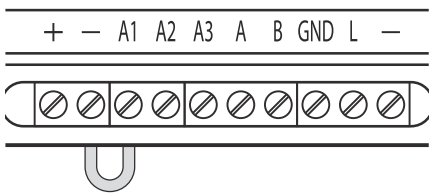


Fig. 36

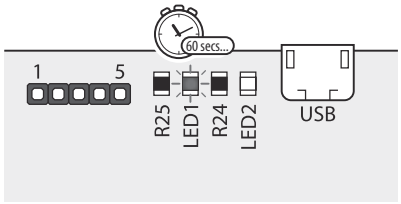


Fig. 37

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.38**.
3. Switch the power back **ON** to the GSM module, initially the red LED (LED1) will switch **ON** for approximately 8 seconds or so. The red LED (LED1) will then start to flash, as shown in **Fig.39**.
4. Please note that during the reset process the network status LED on the top SIM pcb will start and continue to flash **ON** and **OFF**, this is normal.
5. After approximately 10 - 12 seconds both the red LED (LED1) and the green LED (LED2) will switch **ON** for approximately 20 seconds or so, as shown in **Fig.40**.
6. After the 20 seconds both the red LED (LED1) and green LED (LED2) will switch **OFF,** followed by a brief pause, then both LED's will double flash quickly **ON** and **OFF**, as shown in **Fig.41**.
7. The red LED (LED1) will then start to flash again for approximately 16 - 18 seconds to indicate that the GSM module is resetting back to the factory default (**Fig.39**).
8. After the 16 -18 seconds both the red LED (LED1) and green LED (LED2) will flash quickly **ON** and **OFF** once to indicate the GSM module has reset.
9. 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, access codes, proximity fobs/cards 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_V2-2 (or later).

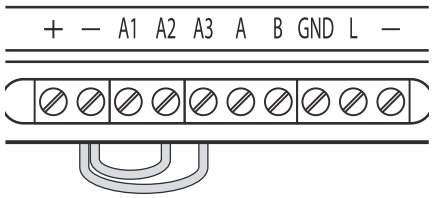


Fig. 38

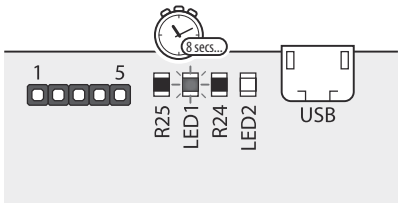


Fig. 39

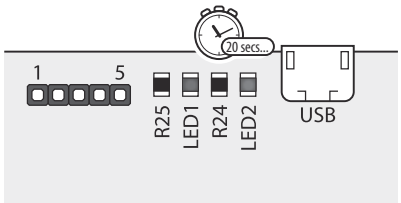


Fig. 40

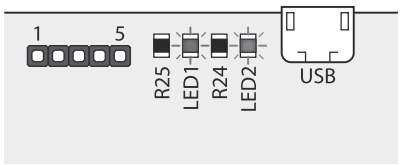


Fig. 41

Programming the GSM Module

PROGRAMMING THE GSM MODULE

Programming the GSM module can be carried out by several methods: by sending text (SMS) messages, by using the **GSMSK** PC software (ver 4.1.0.36 or later) including the 'over the air' feature (refer to the PC programming manual **GSMSK_66251720-EN_V2-2** or later) and also by using the **GSM mobile Apps** (refer to notes on page 56).

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	32
Store divert 1 telephone no.	**STD**	1111STDnnn"01912241559"	nnn = 001 - 180	n/a	32
Store divert 2 telephone no.	**STE**	1111STEnnn"01912243678"	nnn = 001 - 180	n/a	32
Store divert 3 telephone no.	**STF**	1111STFnnn"01912245326"	nnn = 001 - 180	n/a	32
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	32 - 33
Store dial to open no. (relay 1)	**S1R**	1111S1Rnnn"07771234567"	nnn = 000 - 999	n/a	33
Store dial to open no. (relay 2)	**S2R**	1111S2Rnnn"07892456789"	nnn = 000 - 499	n/a	33
Store dial to open no. (relay 3)	**S3R**	1111S3Rnnn"07983123456"	nnn = 000 - 499	n/a	33
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" **or** 1111S2R"n1","n2","n3","n4","n5" **or** 1111S3R"n1","n2","n3","n4","n5"	nnn = optional from 000 - 999 for relay 1, nnn = optional from 000 - 499 for relay 2 & relay 3, 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	34 - 35
Using access levels with dial to open numbers (**relay 1 only**)	**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	35
Delete a dial to open no. without knowing it's location	**DET**	1111DET"01912243174"	n/a	n/a	35 - 36

Store temporary dial to open no. (DTO), store up to 32 temp no's max. (**relay 1 only**)	**TDR**	1111TDR"tele"Tn? (**note:** if Tn is omitted default time Tn = T8 = 8 hours)	tele = tel no. to store Tn = T1 - T255 hrs	n/a	36
Delay before call time	**DCT**	1111DCTnnn	nnn = 000 - 255	000 *(disabled)*	36 - 37
Set call time	**SPT**	1111SPTnnn	nnn = 000 - 255	040 *(40s)*	37
Set relay 1 time	**R1T**	1111R1Tnnn	nnn = 000 - 255	005 *(5s)*	37
Set relay 2 time	**R2T**	1111R2Tnnn	nnn = 000 - 255	005 *(5s)*	37
Set relay 3 time	**R3T**	1111R3Tnnn	nnn = 000 - 255	005 *(5s)*	37
Set auxiliary 1 mode	**A1M**	1111A1Mnnn	nnn = 000 - 006	000	37 - 38
Set auxiliary 2 mode	**A2M**	1111A2Mnnn	nnn = 000 - 006	000	37 - 38
Set auxiliary 3 mode	**A3M**	1111A3Mnnn	nnn = 000 - 006	000	37 - 38
Divert to next no. time	**DIT**	1111DITnnn	nnn = 001 - 255	15 *(15s)*	38
Check GSM signal strength	**SIG**	1111SIG?	n/a	n/a	38
Check software version	**VER**	1111VER?	n/a	n/a	38
Store SMS message for A1	**S1S**	1111S1S"AuxTriggered"	n/a	AuxTriggered	38
Store SMS message for A2	**S2S**	1111S2S"AuxTriggered"	n/a	AuxTriggered	38
Store SMS message for A3	**S3S**	1111S3S"AuxTriggered"	n/a	AuxTriggered	38
Change 4 digit code	**CDE**	1111CDE1234	Any 4 digits	1111	38
Trigger the relay 1	**RL1**	1111RL1	n/a	n/a	38 - 39
Trigger the relay 2	**RL2**	1111RL2	n/a	n/a	38 - 39
Trigger the relay 3	**RL3**	1111RL3	n/a	n/a	38 - 39
Store balance check dial string	**SDL**	1111SDL"*#1345#"	n/a	n/a	39
Check credit balance	**BAL**	1111BAL?	n/a	n/a	39
Store master telephone no.	**STM**	1111STM"07771234567"	n/a	n/a	39
Store timeband for phone ID's to be active for	**TBA**	1111TBA"HHMMHHMM",days	HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	default = 00002359 AD (all days)	39 - 40
Store timeband(s) for DTO numbers (**relay 1 only**) to be active for, also for access codes and proximity	**ATB**	1111ATBn"HHMMHHMM",days	HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	n/a	40 - 41
Store access levels for DTO numbers (**relay 1 only**) to be active for, also for access codes and proximity	**ACC**	1111ACCn"tttttttttt"	n = 0 - 9 each t = 1 or 0	n/a	41 - 42
Free access timebands including output setup (**RLY1**, **RLY2** or **RLY3**) with latch or momentary trigger	**FRE**	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	42
Clear all free access timebands	**FRD**	1111FRD?	n/a	n/a	43
Check/Set date & time	**CLK**	1111CLK"yy/mm/dd,hh:mm"?	yy/mm/dd,hh:mm	n/a	43
Send tone after answer (But 1)	**DTP**	1111DTPn	n = 0 - 9 or X	X	43
Send tone after answer (Div 1)	**DTD**	1111DTDn	n = 0 - 9 or X	X	43
Send DTMF tone delay	**DTT**	1111DTTnnn	nnn = 001 - 012	003	43
Enable dial 0 on answer function	**EDZ**	1111EDZnnn	nnn = 000 or 001	000	43 - 44
Enable # (hash) function	**ED#**	1111ED#nnn	nnn = 000 or 001	000	44
Find a dial to open (DTO) number	**FDT**	1111FDT" number or ends in"?	n/a	n/a	44
First phone ID to respond to	**SID**	1111SIDnnn	nnn = 001 - 180	150	44 - 45

Last phone ID to respond to	**EID**	1111EIDnnn	nnn = 001 - 180	150	45
End on last divert	**EOD**	1111EODnnn	nnn = 000 or 001	000	45
Shutdown and Restart	**RBT**	1111RBT	n/a	n/a	45
Obtain the GSM's IMEI number	**IME**	1111IME?	n/a	n/a	45 - 46
Unlatch prevention feature	**LLA**	1111LLAnnn?	nnn = 000 or 001	000	46
Network connection indication	**CON**	1111CON?	n/a	n/a	46
Setup the GSM interface for data communication	**APN**	1111APN"apn","username", "password"?	n/a	n/a	46 - 47
Store a username & password for each GSM for online events	**PAS**	1111PAS"username","password"?	n/a	n/a	47
Enable online events for the GSM module	**ENE**	1111ENEnnn?	nnn = 000 or 001	000	47
Setup port forwarding for connection to a Server	**SER**	1111SER"IP",PORT?	n/a	n/a	47 - 48
Source of time/date updates	**NTZ**	1111NTZnnn?	nnn = 000, 001 or 002	001	48
UTC Time Zone for countries ahead of UTC	**TZ+**	1111TZ+nnn?	nnn = 000 - 048	000	48 - 49
UTC Time Zone for countries behind UTC	**TZ-**	1111TZ-nnn?	nnn = 000 - 048	000	49
Daylight savings time adjustment	**DST**	1111DSTnnn?	nnn = 000 or 001	001	49
Proximity number of bytes to check	**PBY**	1111PBYnnn?	nnn = 002, 003 or 004	002	49 - 50
Store a fob/card in a known location **or** the next available location	**FOB**	1111FOBnnnn"site","user" **or** 1111FOB"site","user"	nnnn = 0000 - 1999 **or** nnnn - optional	n/a	50
Store a fob/card in a known location **or** the next available location with an access level	**FOB**	1111FOBnnnn"site","user"An **or** 1111FOB"site","user"An	nnnn = 0000 - 1999 **or** nnnn - optional An = A0 - A9	An default = all access unless specified	50 - 51
Find a fob or card number	**FDF**	1111FDF"user code"	n/a	n/a	51
Delete a fob or card without knowing its location	**DEF**	1111DEF"12345"	n/a	n/a	51
Store an access code in a known location **or** the next available location and activate relays 1 and/or 2 respectively	**PIN**	1111PINnnn"code"12 **or** 1111PIN"code"12	nnn = 000 - 399 **or** nnn - optional, code = 4 - 8 digit access code, 1 & 2 = relay to activate	default relay setup = relay 1 unless specified	51 - 52
Store an access code in a known location with an access level **or** the next available location with an access level and activate relays 1 and/or 2 respectively	**PIN**	1111PINnnn"code"An **or** 1111PIN"code"An **also** 1111PIN"code"12,An	nnn = 000 - 399 **or** nnn - optional, An = A0 - A9, code = 4 - 8 digit access code, 1 & 2 = relay to activate	An default = all access unless specified, default relay setup = relay 1 unless specified	52 - 53
Store a temporary access code in the next available location, activate relays 1 and/or 2 respectively	**TMP**	1111TMP"code"12,Tn (**note:** if Tn is omitted default time Tn = T8 = 8 hours)	code = 4 - 8 digit access code, 1 & 2 = relay to activate, Tn = T1 - T255hrs	default relay setup = relay 1 unless specified	53 - 54
Find an access code	**FDC**	1111FDC"code"?	code = 4 - 8 digit access code	n/a	54
Delete an access code (without knowing it's location)	**DEC**	1111DEC"code"?	code = 4 - 8 digit access code	n/a	54
Delete all temporary codes	**DEP**	1111DEP?	n/a	n/a	54

Send global announcement feature	**SGA**	1111SGA"text"	text = up to 150 characters max.	n/a	54 - 55
Activate remote relay output (relay, aux A1 or aux A2)	**RLN**	1111RLNnnn? or 1111RLNnnna?	nnn = 000 - 063 (ID) a = 1 (relay), 2 (A1) or 3 (A2)	n/a	55

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"yyyyyyyyyyy"	Store the primary telephone number yyyyyyyyyyy in phone ID position nnn.
1111STNnnn"yyyyyyyyyyy"?	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"

<u>IMPORTANT NOTE:</u> 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 32*.

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 = 07771234567
OK VIDEX 4G

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"yyyyyyyyyyy") **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"yyyyyyyyyyy"?) **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.

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 4G

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 relay 1 (000 - 999) and 500 numbers for relays 2 and 3 (000 - 499).

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).

1111S1Rnnn"yyyyyyyyyyy" **1111S2Rnnn"yyyyyyyyyyy"** **1111S3Rnnn"yyyyyyyyyyy"**	For **S1R** store the DTO number yyyyyyyyyyy in position nnn, where nnn = 000 - 999. For **S2R** or **S3R** store the DTO number yyyyyyyyyyy in position nnn, where nnn = 000 - 499.
1111S1Rnnn"yyyyyyyyyyy"? **1111S2Rnnn"yyyyyyyyyyy"?** **1111S3Rnnn"yyyyyyyyyyy"?**	As above for **S1R** and also send a confirmation text to confirm storage of DTO number. As above for **S2R** or **S3R** and also send a confirmation text to confirm storage of DTO number.
1111S1Rnnn? **1111S2Rnnn?** **1111S3Rnnn?**	For **S1R** query the DTO number stored in location nnn, where nnn = 000 - 999. For **S2R** or **S3R** query the DTO number stored in location nnn, where nnn = 000 - 499. A text message will be sent to the sender with the stored DTO number for the respective relay (1, 2 or 3) and location.
1111S1Rnnn"" **1111S2Rnnn""** **1111S3Rnnn""**	For **S1R** delete the DTO number stored in location nnn, where nnn = 000 - 999. For **S2R** or **S3R** delete the DTO number stored in location nnn, where nnn = 000 - 499.
1111S1Rnnn""? **1111S2Rnnn""?** **1111S3Rnnn""?**	For **S1R** delete and confirm the deletion of DTO number stored in location nnn, where nnn = 000 - 999. For **S2R** or **S3R** delete and confirm the deletion of DTO number stored in location nnn, where nnn = 000 - 499.

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 any "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).

1111S1R"n1" **1111S1R"n1","n2"** **1111S1R"n1","n2","n3"** **1111S1R"n1","n2","n3","n4"** **1111S1R"n1","n2","n3","n4","n5"**	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.
1111S1R"n1" ? **1111S1R"n1","n2"?** **1111S1R"n1","n2","n3"?** **1111S1R"n1","n2","n3","n4"?** **1111S1R"n1","n2","n3","n4","n5"?**	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), 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 module:

MEM OPEN 003 = 01912243174
MEM OPEN 004 = 01912241558
MEM OPEN 005 = 07771234567
MEM OPEN 006 = 01912241559
MEM OPEN 007 = 07897123456
OK VIDEX 4G

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 from.

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 4G

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
MEM OPEN 006 = 07771234567
OK VIDEX 4G

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 nn and nn) 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 an access level 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 4G

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"yyyyyyyyyyy"	Delete the dial to open number yyyyyyyyyyy (where yyyyyyyyyyy DTO number).
1111DET"yyyyyyyyyyy"?	Delete the dial to open number yyyyyyyyyyy (where yyyyyyyyyyy 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 interface will respond with:

NOT FOUND
OK VIDEX 4G

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 command can be sent:

1111DET"07771234567"?

The reply from the GSM module would be:

DELETED
OK VIDEX 4G

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.

STORE A TEMPORARY DIAL TO OPEN NUMBER (TDR) - FOR RELAY 1 ONLY

Using the following programming command **1111TDR"tele"Tn?** it is also possible to store a temporary dial to open number (DTO) in the GSM interface **for relay 1 only**. The time period **Tn** for the temporary dial to open number is in hours and can be from 1 up to 255 hours (T1 - T255). The time will only begin counting down from when the temporary dial to open number is first used. Once the time period has elapsed the temporary DTO will be deleted. Up to 32 temporary dial to numbers can be stored in the GSM module.

1111TDR"tele"Tn?	Store a temporary dial to open number (DTO) **tele** for the time period **Tn** (where **tele** is the DTO number and **Tn** is the time period in hours from T1 - T255 hours), also send a confirmation text back to the sender. Note that if **Tn** is omitted the default time **Tn** = **T8** = 8 hours.

For example: To store the number 07778765432 as a temporary dial to open (DTO) and for 24 hours, the following programming command can be sent:

1111TDR"07778765432"T24?

The reply from the GSM module would be:

TMP OPEN = 07778765432
OK VIDEX 4G

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 adressing 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.

1111DCTnnn	Store the delay before call time nnn, where nnn = time in seconds (000 = disabled or nnn = 001 - 255 seconds).
1111DCTnnn?	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.
1111DCT?	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.

1111SPTnnn	Store the call time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds).
1111SPTnnn?	Store the call time nnn, where nnn = time in seconds (nnn = 001 - 255 seconds). Also send a confirmation text back to the sender.
1111SPT?	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).

1111R1Tnnn	Store the relay time nnn, where nnn = time in seconds (000 = latching or nnn = 001 - 255 seconds).
1111R1Tnnn?	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.
1111R1T?	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 17.

Send respective SMS1, SMS2 or SMS3 message to master number: nnn = 001
When auxiliary A1 (A2 or A3) is triggered send SMS1 (SMS2 or SMS3) message to the master number. Refer to **Fig.11** on page 17.

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 18.

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 18.

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 19.

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 19.

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 20.

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.

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 58). It is advisable that when the **Art.2270/4G** 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.

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.2270/4G** GSM interface 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 GSM interface 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 previous page).

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 17).

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 19).

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.

<u>IMPORTANT NOTE:</u> 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 **<u>must be</u>** 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.2270/4G** 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 **O_2** 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_2** 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.

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**, **O_2**) 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 37 - 38 and store SMS message for auxiliary 1, 2 or 3 on page 37). 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.

1111STM"yyyyyyyyyyy"	Store the telephone number yyyyyyyyyyy.
1111STM"yyyyyyyyyyy"?	Store the telephone number yyyyyyyyyyy and send a confirmation text back to the sender.
1111STM?	Query the master telephone number stored. A text message will be sent to the sender with the stored master number.
1111STM""	Delete the master telephone number stored.
1111STM""?	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 43). 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				
Mo = Monday	**Tu** = Tuesday	**We** = Wednesday	**Th** = Thursday	**Fr** = Friday
Sa = Saturday	**Su** = Sunday	**AD** = All days	**WD** = Week days only	**WE** = 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.

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

TB = 08001700,Su,Mo,Tu,We,Th,Fr,Sa
OK VIDEX 4G

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 4G

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 DTO NUMBERS TO BE ACTIVE FOR, RELAY 1 ONLY, ALSO FOR CODES & PROXIMITY (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 DTO numbers stored for relay 1 at various times. This timeband feature is also used to setup timebands for any access codes and proximity fobs/cards when the 4G GSM module is connected via RS485 to an **Art.4903** keypad and an **Art.4850R** reader.

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 DTO number, access code and/or proximity fob/card 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 above 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 **start** 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 **end** 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 GSMmodule, remembering to use 24hr clock notation:

1111ATB0"08001400",WE?

The GSM module will reply with the following text:

ATB0 = 08001400,Su,Sa
OK VIDEX 4G

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 4G

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 DTO NUMBERS TO BE ACTIVE FOR, RELAY 1 ONLY, ALSO FOR CODES & PROXIMITY (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. This feature allows an access level to be stored for any of the DTO numbers for relay 1 of the GSM module. It also allows an access level to be stored for any of the access codes (000-399) and proximity fobs/cards (0000-1999) when connected via RS485 to an **Art.4903** keypad and an **Art.4850R** reader.

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"tttttttttt","rrrrrrrr"	Assign the timebands **tttttttttt** and the readers/keypads **rrrrrrrr** to access level **n**, where **n** = access level no. 0 - 9, each of the timebands **tttttttttt** = 1 or 0 (where 1 = timeband assigned and 0 = timeband not assigned) and each of the readers/keypads **rrrrrrrr** = 1 or 0 (where 1 = reader/keypad assigned and 0 = reader/keypad not assigned), also refer to the **ACC** command string shown in **Fig.42**.
1111ACCn"tttttttttt","rrrrrrrr"?	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.

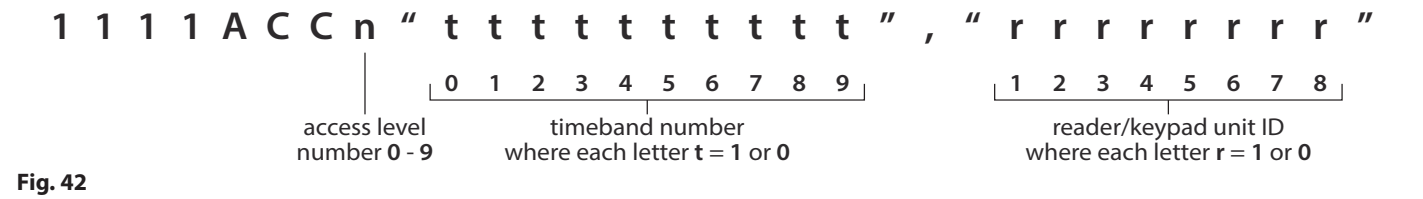


Fig. 42

Example: Following the format of the **ACC** command string shown in **Fig.42** 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 **"tttttttttt"** would be shown as **"1010101010"** in the command string.

Similarly each letter **r** in the command string represents which readers/keypads 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 following readers/keypads **1**, **2**, **5** and **6** were to be assigned to the access level then **"rrrrrrrr"** would be shown as **"11001100"** in the command string.

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

1111ACC8"1010101010","11001100"?

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

AL8 = "1010101010","11001100"
OK VIDEX 4G

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 39.

1111FREn"HHMMHHMM"days:m:o	Store the time period for free access timeband n, where n = timeband no. (0 - 9) using this format: the first HHMM is the **start** time to be active from (i.e. 0845 for 8:45am in the morning) and the second HHMM is the **end** 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.
1111FREn"HHMMHHMM"days:m:o?	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.
1111FREn?	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 4G

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.

1111FRD?	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 pages 39 - 40). 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.

1111CLK?	Check current time & date and send a confirmation text back to the sender.
1111CLK"yy/mm/dd,hh:mm"	Set current time & date.
1111CLK"yy/mm/dd,hh:mm"?	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 4G

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.

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 58) 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, **FDT**, allows the user to find the location of where a dial to open telephone number, **DTO**, is stored in the GSM module (between 000 - 999 for **S1R** and 000 - 499 for **S2R** and **S3R** respectively). It also confirms which dial to open list (**S1R**, **S2R** or **S3R**) the number is stored in. 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"yyyyyyyyyyy"?	Find dial to open location of telephone number yyyyyyyyyyy stored, where yyyyyyyyyyy = 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 4G

where **x** is the dial to open list 1 (**S1R**), 2 (**S2R**) or 3 (**S3R**),
and where **nnn** = DTO location 000 - 999 for **S1R**, 000 - 499 for **S2R** and **S3R** where the number is stored.

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 4G

where **x** is the dial to open list 1 (**S1R**), 2 (**S2R**) or 3 (**S3R**),
and where **nnn** = DTO location 000 - 999 for **S1R**, 000 - 499 for **S2R** and **S3R** where the number is stored.

⚠ **IMPORTANT: IN ORDER FOR THE ART.2270/4G 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.2270/4G** 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 telelphone 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.

1111SIDnnn	Set the first phone ID to respond to nnn, where nnn = phone ID from 001 - 180.

1111SIDnnn?	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.
1111SID?	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.2270/4G** 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.

1111EIDnnn	Set the last phone ID to respond to nnn, where nnn = phone ID from 001 - 180.
1111EIDnnn?	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.
1111EID?	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.

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

SHUTDOWN AND RESTART (RBT)

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

1111RBT	Shutdown and restart the GSM module.

IMPORTANT NOTE: The RBT feature should not be confused with the 'hard-wired' reset (described on page 28). The RBT function simply powers down the GSM module and then powers it back up again.

OBTAIN THE GSM'S IMEI NUMBER (IME)

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.

1111IME?	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 4G

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 27 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.2270/4G 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 GSM interface 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 resepective 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.

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

NETWORK CONNECTION INDICATION (CON)

As well as checking the power & network status indication LED on the top pcb of the **Art.2270/4G** GSM (**Fig.3**, (K) page 10) to check which network type (**2G**, **3G** or **4G**) the GSM interface is connected to, the command **1111CON?** can be sent to the GSM.

1111CON?	Check the network type (**2G**, **3G** or **4G**) the GSM interface module is connected to, also send confirmation to the sender.

Example: To check the type of network the GSM module is connected to, the following message can be sent to the GSM interface:

1111CON?

The GSM intercom will reply with the following text:

CON=nG
OK VIDEX 4G

(where **n** = 2, 3 or 4)

SETUP THE GSM INTERCOM FOR DATA COMMUNICATION (APN)

The 4G GSM interface can be setup for data communication. In order for data communication the SIM card used in the GSM must also have a data allowance setup, this should be done by the user/installer when choosing a network provider (**O_2**, **EE**, **Vodafone** etc.) to use.

There are two purposes for setting up the GSM interface for data communication:

- The first is to allow a user to be able to remotely monitor the GSM's events online using the web browser based events application or remotely monitor the GSM's events via either of the two mobile apps - the **Videx SMS Wizard** (for users) and the **Videx SMS Wizard PRO** (for installers and engineers), also refer to **the GSM moble apps** notes on page 56.
- The second purpose is to allow for the programming 'over the air' option so that a user/installer can remotely program the GSM module using the **GSMSK** PC software (the PC software can still be used to program the GSM module, but the PC or laptop is not directly linked to it via the USB or RS485 connections).

The following programming command can be used to store the network provider's **APN** details to the GSM module.

1111APN"apn","username","password"?	Store the **APN** details of the network provider to the GSM, also send confirmation to the sender, where the **apn**, **username** and **password** are the details provided by the SIM card network provider, these details can usually be found on the network providers website or doing an online search.

Example: Store the **APN** details for an **O_2** pay and go SIM to the GSM module, where the the **apn** = **payandgo.o2.co.uk**, **username** = **payandgo** and **password** = **password**, the following message can be sent to the GSM module:

1111APN"payandgo.o2.co.uk","payandgo","password"?

With the inclusion of the **?** the GSM module will reply with the following text:

APN=payandgo.o2.co.uk
payandgo
password
OK VIDEX 4G

<u>IMPORTANT NOTE:</u> Remember that the APN details will vary from network to network and may also have different APN details

for their contract SIM cards and their pay as/and you go SIM cards. The table below provides the APN details for the most common network providers in the UK that have been gathered by VIDEX and are correct at time of print. Please note that these details may also be subject to change without prior notice by the respective network provider, therefore VIDEX are not responsible for any errors, omissions or discrepancies that may effect the APN setup.

Provider: Vodafone (contract) **APN:** wap.vodafone.co.uk **Username:** wap **Password:** wap	**Provider: Vodafone** (pay & go) **APN:** pp.vodafone.co.uk **Username:** wap **Password:** wap	**Provider: EE** **APN:** everywhere **Username:** eesecure **Password:** secure
Provider: O_2 (contract) **APN:** mobile.o2.co.uk **Username:** o2web **Password:** password	**Provider: O_2** (pay & go) **APN:** payandgo.o2.co.uk **Username:** payandgo **Password:** password	**Provider: Giffgaff** **APN:** giffgaff.com **Username:** giffgaff **Password:**
Provider: Tesco Mobile **APN:** prepay.tesco-mobile.com **Username:** tescowap **Password:** password	**Provider: ASDA Mobile** **APN:** asdamobiles.co.uk **Username:** web **Password:** web	**Provider: Virgin Mobile** **APN:** goto.virginmobile.uk **Username:** user **Password:**

It is recommended that after changing the **APN** details to reboot the GSM module using the **1111RBT** command (also see **RBT** notes on page 45).

STORE A USERNAME & PASSWORD FOR EACH GSM MODULE FOR ONLINE EVENTS (PAS)

When using the online events application each GSM module that is setup through the application requires it's own username and password. The username and password is created by the user, following the online setup steps (via the website ***www.videxevents.co.uk***), when adding a new GSM to the list of GSM modules. Each GSM module on the list can have their events monitored remotely online or via either of the two GSM mobile apps - the **Videx SMS Wizard** (for users) and the **Videx SMS Wizard PRO** (for installers and engineers).

The following command is used to store the username and password for each of the GSM modules on the GSM module list.

1111PAS"username","password"?	Store the **username** & **password** for the GSM module, also send confirmation to the sender.

Example: To store the **username "videx-tech-1"** and the **password "gsm-tech-1"** for a 4G GSM on the GSM modules list, the following message can be sent to the GSM module:

1111PAS"videx-tech-1","gsm-tech-1"?

With the inclusion of the **?** the GSM module will reply with the following text:

PAS=videx-tech-1
gsm-tech-1
OK VIDEX 4G

ENABLE ONLINE EVENTS FOR THE GSM MODULE (ENE)

After the user has registered an online events profile (via the website ***www.videxevents.co.uk***), the GSM module has been configured for data communication (**APN**) and added to the list of GSM modules with a username and password setup (**PAS**) the GSM module itself requires the events to be enabled (i.e. the events from the GSM module will be sent to the web browser application to be displayed in the list of events).

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 status.

1111ENEnnn	Enable the online events feature, where **nnn** = 000 (disabled) or 001 (enabled).
1111ENEnnn?	Enable the online events feature, where **nnn** = 000 (disabled) or 001 (enabled). Also send a confirmation text back to the sender.
1111ENE?	Query the status (enabled or disabled) of the events feature.

Further notes on how to complete the online events setup can be found on page 61 - **Managing GSM events remotely**.

SETUP PORT FORWARDING FOR CONNECTION TO A SERVER (SER)

Before setting up a connection to a server the GSM module must first be setup for data communication using the **APN** programming command (see **APN** setup notes and example on the previous pages), this will allow the GSM interface module to be programmed remotely 'over the air' using the **GSMSK** PC software.

Also in order for the remote 'over the air' feature to work port forwarding needs to be setup on the router where the PC connects to

so that the GSM module can forward and receive packets from it, to do this follow the setup and configuration instructions on Videx application note **AN0046_RemotelyProgramming4GIntercomsViaPCSoftware**.

To initiate communication the **SER** programming command can be used (see below), this will effectively let the GSM module know where the server is.

1111SER"IP",PORT?	Setup port forwarding for connection to a server, where **IP** is the public IP address where the PC is located and the **PORT** is any free port. Also send a confirmation text back to the sender.

IMPORTANT NOTE: IT IS IMPORTANT TO MAKE SURE THAT THE SIM CARD INSTALLED HAS BEEN ENABLED FOR DATA AND HAS DATA ALLOWANCE AVAILABLE PRIOR TO USING THE APN, ENE, PAS AND SER PROGRAMMING COMMANDS OTHERWISE THE REMOTE ONLINE EVENTS FEATURE AND THE 'OVER THE AIR' FEATURE WILL NOT WORK!

SOURCE OF TIME/DATE UPDATES (NTZ)

The source of where the GSM interface module synchronises its internal clock is particularly important when using any of the timeband features as these features rely on the GSM's clock to be accurate. As such the 4G GSM module has 3 modes which it can be set to, for where it can obtain the current time and date updates to synchronise its internal clock with. The three modes are as follows:

- **mode 000:** no clock setting at all i.e. the GSM receives no automatic time updates.
- **mode 001:** the time is taken from the telephone network providers clock setting via **NITZ** (network identity & time zone), but only if the network supports **NITZ** (default).
- **mode 002:** the time is taken from an online clock using the **NTP** protocol where the GSM module is able to synchronise its clock with an online **NTP server**.

By default the 4G GSM module is set to **mode 001**, whereby it will try to automatically synchronise with the network providers clock setting via **NITZ** (network identity & time zone) providing that the network supports **NITZ**, also refer to **important note** regarding **NITZ** on page 39. The following programming commands can be used to set and confirm the required mode.

1111NTZnnn	Set the mode of the GSM's internal clock to obtain the current time & date updates, where **nnn** = 000 (no automatic time updates), 001 (default, time taken from the phone network provider) or 002 (time taken from an **NTP server**, **UTC** time).
1111NTZnnn?	As above and also send a confirmation text back to the sender.
1111NTZ?	Query which mode the time & date updates is set to and send a confirmation text to the sender.

For the network providers that **do not** support the **NITZ** format, **mode 002** can be set. This mode utilises the **NTP server** protocol which is an internet protocol that is used to synchronise the clocks on computer networks to coordinated universal time (**UTC**). It enables the GSM to request and receive **UTC** data from an **NTP server** that, in turn, receives precise time from an atomic clock.

When **mode 002** is set the following 3 additional programming commands become available to the user: **TZ+, TZ-** and **DST.** These additional commands allow the user (depending on where/which country in the world they are installing the GSM intercom module) to manually setup the GSM in the correct **Time Zone** using the **TZ+** or **TZ-** commands and if the **Time Zone** they are in also requires a daylight savings time adjustment then they can use the **DST** command.

IMPORTANT NOTE: It should be noted that the coordinated universal time (UTC) is the basis for civil time today. This 24-hour time standard is kept using highly precise atomic clocks. Therefore when setting up the TZ+, TZ- and DST automatic time correction features the Time Zone (UTC+0) used is taken from the GMT UK based time of '0', i.e. Time Zone (UTC+0) = UK standard time (GMT) = 0.

UTC TIME ZONE FOR COUNTRIES AHEAD OF UTC (TZ+)

If the GSM module is being installed in a **Time Zone** ahead of **Time Zone (UTC+0)** then the command **1111TZ+nnn** can be used to set the correct time ahead. The time adjustments are made in increments of 15 minutes (e.g. 1 increment = 001 = 15 minutes), so an hour adjustment ahead of **Time Zone (UTC+0)** will be equal to **004** increments, an adjustment of 2 hours ahead of **Time Zone (UTC+0)** will be equal to **008** increments and so on.

By default the value **nnn** is set to **000** (i.e. **Time Zone (UTC+0)** = UK standard time (GMT) = 0). The following commands can be used to set the time ahead and confirm.

1111TZ+nnn	Adjust the GSM's time zone ahead of **Time Zone (UTC+0)** by **nnn** increments, where **nnn** = value between 000 (default) to 048.
1111TZ+nnn?	As above and also send a confirmation text back to the sender.
1111TZ+?	Query the time zone adjustment setting and send a confirmation text to the sender.

Example - setting the Time Zone to Rome, Italy, Europe (1 hour ahead):

If the 4G GSM module is being installed in Rome, Italy and the network provider used does not support **NITZ**, the **NTZ** command would be set to **mode 002 = 1111NTZ002**. As the European time zone = 1 hour ahead of **Time Zone (UTC+0)** the adjustment will

be 4 increments of 15 minutes = 1 hour. Therefore the following command can be sent to the 4G GSM module:

1111TZ+004?

The **?** is included in the example for a confirmation back from the GSM. The GSM module will reply with the following text:

TZ+004
OK VIDEX 4G

UTC TIME ZONE FOR COUNTRIES BEHIND UTC (TZ-)

If the GSM module is being installed in a **Time Zone** behind **Time Zone (UTC+0)** then the command **1111TZ-nnn** can be used to set the correct time behind. As with the **TZ+** command the time adjustments are made in increments of 15 minutes (e.g. 1 increment = 001 = 15 minutes), so an hour adjustment behind **Time Zone (UTC+0)** will be equal to **004** increments, an adjustment of 2 hours behind **Time Zone (UTC+0)** will be equal to **008** increments and so on.

By default the value **nnn** is set to **000** (i.e. **Time Zone (UTC+0)** = UK standard time (GMT) = 0). The following commands can be used to set the time behind and confirm.

1111TZ-nnn	Adjust the GSM's time zone behind **Time Zone (UTC+0)** by **nnn** increments, where **nnn** = value between 000 (default) to 048.
1111TZ-nnn?	As above and also send a confirmation text back to the sender.
1111TZ-?	Query the time zone adjustment setting and send a confirmation text to the sender.

Example - setting the Time Zone to New York, USA, North America (5 hours behind):

If the 4G GSM module is being installed in New York, USA and the network provider used does not support **NITZ**, as with the **TZ+** command in the previous example the **NTZ** command would be set to **mode 002 = 1111NTZ002**. Since New York is on the Eastern coast of the USA it falls into the Eastern Standard Time (**EST**) time zone = 5 hours behind **Time Zone (UTC+0).** The adjustment will therefore be 20 increments of 15 minutes = 5 hours. The following command can be sent to the 4G GSM module:

1111TZ-020?

The **?** is included in the example for a confirmation back from the GSM. The GSM module will reply with the following text:

TZ-020
OK VIDEX 4G

DAYLIGHT SAVINGS TIME ADJUSTMENT (DST)

If the GSM module is being installed in a time zone that allows for daylight savings time then the automatic **DST** adjustment feature can be enabled or disabled. By default this feature is enabled, set to 001. The following command can be used to enable or disable this feature.

1111DSTnnn	Enable/disable the daylight savings time feature, where **nnn** = 000 (disabled) or 001 (enabled).
1111DSTnnn?	As above and also send a confirmation text back to the sender.
1111DST?	Query the status of the daylight savings time feature stored in the GSM module.

⚠ **IMPORTANT NOTE: IT WILL BE NECESSARY TO REBOOT THE POWER TO THE GSM MODULE USING THE PROGRAMMING COMMAND 1111RBT AFTER ANY TIME ZONE ADJUSTMENTS HAVE BEEN MADE. THIS IS SO THAT THE NEW CLOCK TIME AND DATE SETTINGS WILL BE RECOGNISED AND TAKE EFFECT.**

⚠ **IMPORTANT NOTE: THE FOLLOWING PROGRAMMING COMMANDS: PBY, FOB, FDF, DEF, PIN, TMP, FDC, DEC AND DEP CAN ONLY BE USED WHEN THE ART.2270/4G GSM INTERFACE HAS BEEN NETWORKED WITH ANY ART.4850R READERS AND/OR ART.4903 KEYPADS VIA THE RS485 BUS.**

PROXIMITY NUMBER OF BYTES TO CHECK (PBY, 02, 03 & 04)

If an **Art.4850R** expansion proximity reader has been networked with the **Art.2270/4G** GSM interface via the RS485 bus the proximity reader is automatically enabled.

The number of bytes that the reader checks is dependant on which type of proximity fob/card is used (also refer to the **GSMSK** PC software manual **GSMSK_66251720-EN_V2-2** or later).

Understanding the Fob Format and Card Number

It is important to understand the relationship between the fob format and the card number when setting up the proximity reader to check for the correct number of bytes.

- **Fobs/Cards with 5 digit number (user code):** If a proximity fob/card has no site code but a 5 digit user code (e.g. 955/T or 955/C) the **PBY** format should be set to check for 2 bytes (**002**).
- **Fobs/Cards with 3 digit site code and 5 digit user code:** If using a fob/card with a 3 digit site code and 5 digit user code (e.g. PBX1E or PBX2) the **PBY** format can be set to check for 2 bytes (**002**) or 3 bytes (**003**).

- **Fobs/Cards programmed using the PROXE or PROX-USB desktop reader:** If using a desktop reader the **PBY** format can be set to check for 2 bytes (**002**), 3 bytes (**003**) or 4 bytes (**004**).

The default setting for this function is set to check for 2 bytes, '**002'**. The following texts can be used to change this setting.

1111PBYnnn	Set proximity reader to check for number of bytes **nnn**: 002, 003 or 004 (002 = check for 2 bytes, 003 = check for 3 bytes, 004 = check for 4 bytes).
1111PBYnnn?	As above and send a confirmation text back to the sender.
1111PBY?	Query the number of bytes that the GSM has been set to check for.

PBY setting	Description
2 bytes	Will read all fobs/cards types programmed.
3 bytes	Will not read fobs/cards programmed with only 2 bytes (5 digit) information.
4 bytes	Will not read fobs/cards programmed with only 2 bytes (5 digit) or 3 bytes (8 digit) information.

IMPORTANT NOTE: It is recommended that only one fob/card type is used (i.e. 955/T or PBX-1E etc.) to allow for easier set up and programming of the Art.4850R reader. Mifare cards cannot be used.

STORE A PROX FOB/CARD TO A KNOWN LOCATION (0000 - 1999) OR STORE IN THE NEXT AVAILABLE LOCATION (FOB)

Once the number of bytes to check for has been set (see **PBY** setup described above) the proximity fobs/cards can be programmed into the GSM module.

The GSM intercom can store up to 2000 fobs/cards (0000 - 1999). The **Art.4850R** expansion reader(s) can be programmed with any one of the following fobs:

- **955/T or 955/C** = Videx fobs or cards. These fobs and cards have no site code and have a 5 digit user code, so the **PBY** function must be set to 002 (the default setting, checking for 2 bytes).
- **PBX1E or PBX2** = Portal Plus fobs or cards. These fobs and cards have a 3 digit site code and 5 digit user code, so the **PBY** function can be set to 002 or 003.

The following texts can be used to program fobs or cards to a known memory location.

1111FOBnnnn"site","user" **or** **1111FOBnnnn"site","user"?**	Store fob/card in location **nnnn**, where **nnnn** = the memory location from 0000 - 1999 of where the fob/card is actually stored (see examples below for each type of fob/card). The "site" and "user" code is the number taken directly from the fob/card. Including the ? at the end of the command will send a confirmation text back to the sender.
1111FOBnnnn?	Query the fob/card stored in memory location **nnnn** and send a confirmation text back to the sender with the stored fob/card details.

The following examples show how to program each fob/card type:

Example 1: Programming a **955/T** or **955/C** with no site code, a 5 digit user code of **12345** and storing it in memory location **0001**, the following text can be sent to the GSM module:

1111FOB0001"0","12345"

For these fob/card types a **0** must be inserted for the "site" code.

Example 2: Programming a **PBX1E** or **PBX2** with a 3 digit site code of **123**, a 5 digit user code of **45678** and storing it in memory location **1999**, the following text can be sent to the GSM module:

1111FOB1999"123","45678"

Expanding on the **FOB** programming command it is also possible to store a fob or card into the next available memory location. This is particularly useful when programming additional fobs or cards into a GSM module with existing fobs and cards already programmed into it, but the locations of where they are stored is unknown. Using the **FOB** programming text string, but omitting the **nnnn** (0000 - 1999) memory location from the command the following texts can be used to program fobs or cards to the next free memory location and confirm where the fob or card will be stored.

1111FOB"site","user"	Store fob/card in the next memory location available. The "site" and "user" code is the number taken directly from the fob/card.
1111FOB"site","user"?	Store fob/card in the next memory location available and send a confirmation text back to the sender with the memory location of where the fob/card is stored. The "site" and "user" code is the number taken directly from the fob/card.

STORE A FOB/CARD IN A KNOWN LOCATION OR THE NEXT AVAILABLE LOCATION WITH AN ACCESS LEVEL (FOB)

The same **FOB** programming command can also be used to assign an access level to a proximity fob/card. An access level can be assigned to fobs/cards and stored directly to a memory location by including **nnnn** (0000 - 1999) in the command string or they

can be stored in the next available location by omitting the memory location from the command string (see examples below). The following **FOB** programming commands can be used.

1111FOBnnnn"site","user"An	Store fob/card in memory location **nnnn** and assign access level **An**, where memory location **nnnn** = 0000 - 1999 and where the access level **An** = A0 - A9. The "site" and "user" code is the number taken directly from the fob/card.
1111FOBnnnn"site","user"An?	As above and also send a confirmation text back to the sender with the location of where the fob/card is stored and the access level it is assigned to.
1111FOB"site","user"An	Store fob/card in the next memory location available and assign access level **An**, where the access level **An** = A0 - A9. The "site" and "user" code is the number taken directly from the fob/card.
1111FOB"site","user"An?	As above and also send a confirmation text back to the sender with the location of where the fob/card is stored and the access level it is assigned to.

Example 1: Programming a **955/T** or **955/C** with no site code, a 5 digit user code of **21092**, storing it in memory location **0004** and assigning it to access level **A5**, the following text can be sent to the GSM module:

1111FOB0004"0","21092"A5?

For these fob/card types insert a **0** for the "site" code. Also including a **?** at the end of the programming command the GSM module will reply with the following text:

FOB 0004 = 00000 21092,A5
OK VIDEX 4G

Example 2: Programming a **PBX1E** or **PBX2** with a 3 digit site code of **241**, a 5 digit user code of **15432**, storing it to the next free memory location (if locations 0000 - 0096 are occupied) and assigning it to access level **A3**, the following text can be sent to the GSM module:

1111FOB"241","15432"A3?

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

FOB 0097 = 00241 15432,A3
OK VIDEX 4G

FIND A FOB OR CARD (FDF)

The find a fob or card feature allows the user to search and find the fob/card location (between 0000 - 1999) of where a proximity fob or card is stored in the GSM module. It locates the fob or card using the 5 digit user code printed on the fob (see the following example). The following text message can be used.

1111FDF"nnnnn"?	Find the fob/card location with user code **nnnnn**, where **nnnnn** = user code (5 digit user code printed on fob/card).

Example: Find fob/card location of card no. **12345**, the following text can be sent to the GSM module:

1111FDF"12345"?

The GSM module will reply with the following text:

STORED IN nnnn
OK VIDEX 4G

where **nnnn** = the fob/card location of where the fob/card is stored (0000 - 1999).

DELETE A FOB OR CARD WITHOUT KNOWING ITS LOCATION (DEF)

This feature allows the user to delete a fob or card without knowing the memory location of where it is stored. The feature uses the 5 digit user code printed on the fob/card to search through the memory locations where the fob/card data is stored and then deletes it from the GSM module. The following text message can be used.

1111DEF"nnnnn"?	Find the fob/card location with user code **nnnnn** and delete, where **nnnnn** = user code (5 digit user code printed on fob/card), also send a confirmation text back to the sender.

Example: Delete fob/card card no. **54321**, the following text can be sent to the GSM module:

1111DEF"54321"?

The GSM module will reply with the following text:

DELETED
OK VIDEX 4G

STORE AN ACCESS CODE TO A KNOWN LOCATION (000 - 399) OR STORE IN THE NEXT AVAILABLE LOCATION (PIN)

If an **Art.4903** keypad(s) has been connected to the GSM using the RS485 connection this feature allows up to 400 (000 - 399)

additional access codes to be programmed into the GSM module. These codes are stored in the GSM's internal memory and not the keypad itself. These additional codes can also be assigned to activate one or both of the keypad's onboard relays (**RLY1** and/or **RLY2**) by including the relay number **1** and/or **2** to the end of the programming code. By default relay **1** will be assigned if a relay is not specified in the programming command. The codes can be 4 - 8 digits in length.

The following texts can be used to program access codes to a known memory location.

1111PINnnn"code"12 **or** **1111PINnnn"code"12?**	Store access code in location **nnn**, where **nnn** = the memory location 000 - 399 where the access code is stored and **code** = 4 - 8 digit access code. The number **1** and/or **2** is the relay to activate. Including the **?** at the end of the command will send a confirmation text back to the sender.
1111PINnnn?	Query the access code stored in memory location **nnn** and send a confirmation text back to the sender with details of where the access code is stored and which relays will be activated.

The following example shows how to program an access code:

Example: Programming a 4 digit access code of **4321**, storing it in memory location **001** and to activate relays **1** and **2**, the following text can be sent to the GSM module:

1111PIN001"4321"12?

Note that in this example no commas **,** are required to separate the relay selections and a **?** has been included to receive a confirmation text. The GSM module will reply with the following text:

PIN 001=4321,12
OK VIDEX 4G

Expanding on the **PIN** programming command it is also possible to store an access code into the next available memory location. This is particularly useful when programming additional codes into a GSM intercom where there are already existing access codes programmed, but the locations of where they are stored is unknown. Using the **PIN** programming text string, but omitting the **nnn** (000 - 399) memory location from the command the following texts can be used to program access codes to the next free memory location and confirm where the code will be stored.

1111PIN"code"12	Store access code in the next memory location available, where **code** = 4 - 8 digit access code and the number **1** and/or **2** is the relay to activate.
1111PIN"code"12?	Store access code in the next memory location available, where **code** = 4 - 8 digit access code and the number **1** and/or **2** is the relay to activate. Also send a confirmation text back to the sender with details of where the access code is stored and which relays will be activated.

The following example shows how to program an access code into the next free memory location:

Example: If there are several access codes already programmed into the GSM from memory locations 000 - 094, but the user didn't know they were programmed into these locations and where an 8 digit access code of **12345678** was required to activate relay **2** only, then the following text can be sent to the GSM module:

1111PIN"12345678"2?

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

PIN 095=12345678,2
OK VIDEX 4G

In this example the reply from the GSM module shows that the access code **12345678** is stored in memory loaction 095, which is the next available memory location after 094.

STORE AN ACCESS CODE WITH AN ACCESS LEVEL (PIN) INCLUDING RELAY SETUP

Expanding further on the **PIN** programming command an access level can also be assigned to the access code. Using the same **PIN** command as before the access level number **An** (from 0 - 9) is included at the end of the programming command. The following codes can be used to either store a code with an access level in a known location (000 - 399) or store a code with an access level in the next available location (also see examples below).

1111PINnnn"code"An	Store access code in location **nnn** and assign access level **An**, where **nnn** = memory location 000 - 399 where the access code is stored, where **code** = 4 - 8 digit access code and where **An** is the access level = A0 - A9.
1111PINnnn"code"An?	As above and also send a confirmation text back to the sender with the location of where the code is stored and the access level it is assigned to.
1111PIN"code"An	Store access code in the next free location and assign access level **An**, where **code** = 4 - 8 digit access code and where **An** is the access level = A0 - A9.
1111PIN"code"An?	As above and also send a confirmation text back to the sender with the location of where the code is stored and the access level it is assigned to.

Example 1: Programming an access code of **654321**, storing it in memory location **008** and assigning it to access level **A4**, the following text can be sent to the GSM module:

1111PIN008"654321"A4?

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

PIN 008 = 654321,1,A4
OK VIDEX 4G

In this example the 6 digit access code will be stored in memory location 008 and will automatically be setup to trigger relay 1 and the code assigned to access level 4.

Example 2: Programming an access code of **15432**, storing it to the next free memory location (if locations 000 - 125 are occupied) and assigning it to access level **A3**, the following text can be sent to the GSM module:

1111PIN"15432"A3?

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

PIN 126 = 15432,1,A3
OK VIDEX 4G

In this example the 5 digit code will be stored in location 126 (the next available location) as locations 000 - 125 are already occupied. As before the code will automatically be setup to trigger relay 1 and the code assigned to access level 3.

In the two examples above the access codes were setup to trigger relay 1 by default as no relays were specified in the programming command. Using the same programming format for assigning relays (see example on the previous page) both relay assignment and access level assignment can be sent to the GSM in the same **PIN** programming command.

Example 3: To program an access code of **5678**, storing it in memory location **028** and setup the code to trigger relays **1** and **2**, and also assigning the code to access level **A9**, the following text can be sent to the GSM module:

1111PIN028"5678"12A9?

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

PIN 028 = 5678,12,A9
OK VIDEX 4G

In this example the 4 digit access code will be stored in memory location 028 and will be setup to trigger relays 1 and 2, also the code will be assigned to access level 9.

IMPORTANT NOTE: It should be noted that in the examples above that when assigning an access level the access level is assigned to the code and not the relays. The relay setup is purely which relays the access code will activate. The access level determines when the code will be active for.

Using example 3, if access level A9 was made up of two timebands (ATB): timeband 1 from 10:00 to 14:00 on weekdays only and timeband 2 from 09:30 to 13:00 on Sundays only, then the access code 5678 will only be active between 10am until 2pm Monday to Friday and 9:30am until 1pm on Sunday and will trigger relays 1 and 2, but only during these periods.

STORE A TEMPORARY ACCESS CODE IN THE NEXT AVAILABLE LOCATION (TMP)

It is also possible to store up to 32 temporary access codes in the GSM module (when an **Art.4903** keypad is connected via the RS485 bus connections). As these codes are only temporary the GSM will allocate them to the next free memory location (between 400 - 431). The period of time that the codes are valid for can be set from 1 hour up to 255 hours. The time period which the access code is vaild for will only start counting down from when the code is first used.

Like the regular access codes the temporary codes can also be assigned to activate one or both of the keypad's onboard relays (**RLY1** and/or **RLY2**) by including the relay number **1** and/or **2** to the end of the programming code. By default relay **1** will be assigned if a relay is not specified in the programming command. The codes can be 4 - 8 digits in length.

The following texts can be used to program temporary access codes.

1111TMP"code"12,Tnnn	Store temporary code in the next free memory location, where **code** = 4 - 8 digit access code, the number **1** and/or **2** is the relay to activate and where **nnn** = the no. of hours between 1 - 255hrs that the code is valid for. Note that if **T** is omitted default time T = 8 hours.
1111TMP"code"12,Tnnn?	Store temporary code in the next free memory location, where **code** = 4 - 8 digit access code, the number **1** and/or **2** is the relay to activate and where **nnn** = the no. of hours between 1 - 255hrs that the code is valid for. Also send a confirmation text back to the sender with details of which relays will be activated. Note that if **T** is omitted default time T = 8 hours.

The following example shows how to program a temporary access code into the next free memory location:

Example: To program a 6 digit temporary code of **234567** to activate relays **1** and **2** and only be valid for 24 hours, the following text can be sent to the GSM module:

1111TMP"234567"12,T024?

Note that in this example no commas **,** are required to separate the relay selections, however a comma **,** is required between the relay selections and the time period the code is valid for. A **?** has been included to receive a confirmation text. The GSM module will reply with the following text:

TMP PIN TMP=234567,12
OK VIDEX 4G

In this example the reply from the GSM will simply confirm that the temporary code has been stored and which relays the code will activate.

IMPORTANT NOTE: Remember that the maximum number of temporary codes that can be stored is 32. In the event that the temporary codes validation expires the GSM module will delete the code from the memory.

FIND AN ACCESS CODE (FDC)

The find an access code feature allows the user to search and find the memory location (between 000 - 399) of where an access code is stored in the GSM intercom. It locates the memory loaction using the full 4 - 8 digit access code length (see the following example). The following text message can be used.

1111FDC"code"?	Find the memory location where the 4 - 8 digit access code is stored, where **code** = 4 - 8 digit access code. Send a confirmation text back to the sender.

Example: Find the memory location for the access code **54321**, the following text can be sent to the GSM module:

1111FDC"54321"?

The GSM module will reply with the following text:

STORED IN nnn
OK VIDEX 4G

where **nnn** = memory location (000 - 399) of where the access code is stored. In the event that there is no access code stored the GSM will reply with the following text:

NOT FOUND
OK VIDEX 4G

IMPORTANT NOTE: When using the FDC feature to locate an access code the full 4 - 8 digit code length is required. A partial access code cannot be used for the search otherwise the GSM will reply with NOT FOUND, as shown in the example above.

If the FDC feature is used to locate a temporary code, as before the full 4 - 8 digit code length is required for the search. If the temporary codes validation has not expired the GSM will reply with a memory location between 400 - 431 of where the temporary code is stored. If the temporary code validation has expired the GSM will reply with NOT FOUND, as shown in the example above, since it would have already been deleted automatically after the validation has expired.

DELETE AN ACCESS CODE WITHOUT KNOWING ITS LOCATION (DEC)

This feature allows the user to delete an access code (including temporary codes) without knowing the memory location of where it is stored. The feature uses the 4 - 8 digit code length to search through the memory locations where the code is stored and then deletes it from the GSM module. The following text message can be used.

1111DEC"code"?	Find the access/temporary code and delete, where **code** = 4 - 8 digit code length, also send a confirmation text back to the sender.

Example: To delete an access code of **87654321**, the following text can be sent to the GSM module:

1111DEC"87654321"?

The GSM module will reply with the following text:

DELETED
OK VIDEX 4G

In the **FDC** example on the previous page the full 4 - 8 digit code length is required for the **DEC** programming command.

DELETE ALL TEMPORARY ACCESS CODES (DEP)

This feature allows the user to delete all temporary access codes from the GSM module. The following text message can be used.

1111DEP?	Delete all temporary codes, also send a confirmation text back to the sender.

SEND GLOBAL ANNOUNCEMENT FEATURE (SGA)

It is possible to send out a global announcement text message to all the call numbers stored (primary and divert numbers) in the

GSM interface module. The message can be up to 150 characters in length max. The feature is particularly useful if an urgent message needs to be sent out to all the call numbers stored in the GSM interface in a single text. The following text message can be used, remembering to include both the " before and after the message, also if the message requires spaces between words then replace the space with a >.

1111SGA"text"	Send global text message to stored call button numbers (inc. primary and divert numbers), where **text** = message up to 150 characters max.

ACTIVATE REMOTE RELAY OUTPUT (RLN)

When the GSM interface is networked with the **Art.2813** relay via the RS485 bus (see wiring diagram example on page 23, **Fig.21**) it is possible to activate the any of the three outputs (the onboard relay, **A1** and **A2**) remotely via text message.

It is important that the remote relay has already been setup with a unit ID (from **ID.00** to **ID.63**) and with the output activation times programmed, further details on this can be found in the installation intructions: **2813_66251545_V1-0** (or later).

To activate the desired output the following texts can be sent to the GSM interface.

1111RLNnnn	Activate the remote relay, where **nnn** = the unit ID of the remote relay from **ID.00** to **ID.63**. The onboard relay will activate for the programmed time.
1111RLNnnn?	As above and also send a confirmation text back to the sender.
1111RLNnnna?	Activate the specified output on the remote relay, where **nnn** = the unit ID of the remote relay from **ID.00** to **ID.63** and where **a** = **1** (for the onboard relay), **2** (for auxiliary **A1**) or **3** (for auxiliary **A2**). The specified output will activate for the programmed time and the GSM will send a confirmation text back to the sender.

The GSM Mobile Apps

VIDEX SMS ACCESS, 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: **Videx SMS Access** (for users), **Videx SMS Wizard** (for administrators) and **Videx SMS Wizard PRO** (for installers and engineers).

The 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 (GSM PRO, 4G GSM, Digital GSM, 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 MOBILE APPS AND GETTING STARTED

The GSM mobile apps 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 mobile apps, the following details will be required for initial setup:

- **Model of the GSM intercom/interface module -** e.g. **Art.2270/4G**.
- **Firmware level of the GSM intercom/interface -** e.g. for the **Art.2270/4G** GSM the firmware might be **MD1.2.3** (the current firmware version of the GSM module can usually be found on the label on the top of the GSM interface or by sending the text message **1111VER?** to obtain the firmware version, also refer to notes on page 38).
- **Telephone number of the GSM intercom/interface -** 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 38 or '**resetting the master code to 1111**' notes on page 28 to reset the code back to factory default if required.

If the **SMS Access** or **SMS Wizard** app 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.

If the **SMS Wizard PRO** app 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/help icon ⓘ from the drop down menu and then follow the '**TO GET STARTED**' quick guide.

It should be noted when navigating between the apps different programming screens the hint/help icon ⓘ (either located in the top right corner of each screen or located in the drop down menu on each screen) can be used to offer additional guidance on how to use the current programming screen, **Fig.43**.

Fig. 43

SMS ACCESS, SMS WIZARD AND SMS WIZARD PRO APP COMPATIBILITY

The GSM mobile apps are all 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.44**.

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 pages 44 - 45) 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.45**. 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 37.

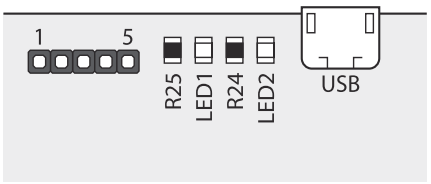


Fig. 44

Fig. 45

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 31 and **DIT** divert time setup on page 38).

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 ressurance 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 58.

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 acompanying 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 34 - 35 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.46**. 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**.

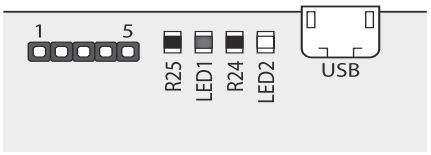


Fig. 46

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 pages 43 - 44 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 44 for further information).

FUNCTION	1st KEY TO PRESS	2nd KEY TO PRESS
Release the door or gate from intercom panel [1]	3	n/a
Activate Relay 1 on GSM module [2]	1	n/a
Activate Relay 2 on GSM module [2]	2	n/a
Activate Relay 3 on GSM module [2]	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)

[1] - 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 pages 37 - 38 and **Fig.16** on page 20.

[2] - 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 29 - 55.

FUNCTION	MESSAGE TO SEND
Check the signal strength	1111SIG?
Check network type & connection	1111CON?
Check the available balance [3]	1111BAL?
Check the software version	1111VER?
Activate Relay 1 on GSM module [4]	1111RL1? (? optional, send if confirmation is required)
Activate Relay 2 on GSM module [4]	1111RL2? (? optional, send if confirmation is required)
Activate Relay 3 on GSM module [4]	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 40 - 41)
Query Access Level (0 - 9)	1111ACCn? (where n = access level no. 0 - 9, also see notes on pages 41 - 42)
Query Free Access Timebands (0 - 9)	1111FREn? (where n = timeband no. 0 - 9, also see notes on pages 42 - 43)
Check Intercom Time and Date	1111CLK?
Find a Dial to Open (DTO) No. [5]	1111FDT"yyyyyyyyyyy"? (where yyyyyyyyyyy = tel no., also see notes on page 44, for S1R = 000 - 999 and for S2R & S3R = 000 - 499 respectively)
Find a Fob/Card location (0000 - 1999)	1111FDF"nnnnn"? (where nnnnn = 5 digit user code printed on fob/card, also see notes on pages 51)
Find an Access Code (000 - 499)	1111FDC"code"? (where code = 4 to 8 digit access code, also see notes on page 54)

The following command is only applicable when an **Art.2813** remote relay is connected via the RS485 bus.

Activate remote relay output	**1111RLNnna?** (where **nn** = unit ID from **00 - 63** and where **a** = **1** (trigger relay), **2** (trigger A1 output) or **3** (trigger A3 output), also see notes on page 55.

[3] - The balance can only be checked if the correct balance check string has been stored (see balance check **SDL** notes on page 39).

[4] - 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 actiavte 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**).

[5] - 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 interface) 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 29 - 55, 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 **1111SIG?** is sent to the GSM module:

SIGNAL = 31
BER = 0
OK VIDEX 4G

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 recieved it is recommended that the **Art.434** antenna or if using the **Art.434 block** 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 **Art.434/HG/5M** or **Art.434/HG/15M** high gain antennas or another suitable 4G GSM antenna with a standard SMA male connector.

DIALLING INTO THE GSM MODULE

There are two possible outcomes to dialling into the **Art.2270/4G** 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 33 - 35) 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 <u>not</u> 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 32 - 33) no further action will take place. Unlike other GSM intercoms (4G GSM4K series, 4G GSMVRK series and the 4G Digital GSM), the **Art.2270/4G** 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

<u>IMPORTANT NOTE:</u> BEFORE USING THE ART.2270/4G 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 <u>NOT LEFT ON THE DEFAULT SETTING</u> (REFER TO PROGRAMMING NOTES ON PAGES 44 - 45).

- ☑ Inserted a pre-registered nano SIM card, connected an antenna and 12Vdc power.
- ☑ Connected the **Art.2270/4G** GSM module to the **L** and **-** databus on the VX2200 system.
- ☑ Set the first phone ID (**SID**) which the **Art.2270/4G** GSM module will respond to.
- ☑ Set the last phone ID (**EID**) which the **Art.2270/4G** 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).

UNDERSTANDING THE BEEPS WHEN AN ART.4850R READER AND/OR ART.4903 CODELOCK IS CONNECTED VIA RS485

Functions and errors are indicated by beeps from the respective RS485 device - **Art.4850R** expansion proximity reader and/or **Art.4903** codelock module.

The following table will help you understand the different beeps heard and the LED status of the reader/keypad and what, if anything, needs to be done in response.

Additional User Information

ART.4850R PROXIMITY READER

BEEP & LED STATUS	REASON	SOLUTION
Successive short beeps lasting for the duration of the relay time. LED switches **amber** to **green**.	Programmed fob/card presented to the onboard/expansion reader.	None, this is normal.
Single short beep followed by a short double beep. LED flashes from **amber** to **red** and back to **amber**.	Fob/card presented to the reader **is not** programmed.	The fob/card requires programming into the GSM module.
Single short beep followed by a short double beep. LED flashes from **amber** to **red** and back to **amber**.	Fob/card presented to the reader **is** programmed in the GSM module however: 1. The number of bytes to check for maybe incorrect. 2. The fob/card may have an access level or timeband assigned to it. 3. The unit ID of the reader may be incorrect.	Although the fob/card **is** programmed in the GSM module check one of the following: 1. Change the number of bytes to check for to 2 bytes (i.e. **1111PBY002?**). 2. Confirm if fob/card has any access levels/ timebands assigned as it may be that the fob/ card is supposed to have restricted access. 3. Check to see if the correct unit ID is set.
Single short beep, 8 second pause, treble short beeps, brief pause then double beep. LED stays **amber**, flashes **red** and **amber**, then switches **OFF** briefly, flashes **red** twice then back to **amber**.	The reader **is** networked via RS485 with the **Art.2270/4G** GSM module, however a USB cable is still connected to the GSM module (regardless whether a fob/card is programmed into the GSM module or not). **OR** The reader **is not** networked via RS485 with the **Art.2270/4G** GSM module.	Check one of the following: 1. Check to see if a USB cable is still connected to the GSM module and unplug. 2. Check the **A**, **B** and **GND** connections on the RS485 bus terminals between the GSM module and the reader, ensure the connecitons are the correct way round i.e. **A** to **A**, **B** to **B** etc., and/or not damaged or disconnected in any way.
No beeps. LED is switched **OFF**. The reader is unresponsive in every way, even when a fob/card (whether programmed into the GSM module or not) is presented to the reader.	The reader may not have 12Vdc power.	Check one of the following: 1. Check to see if there is 12Vdc across the +/- power input on the reader. 2. Check the 12Vdc output from the power supply that's powering the reader. 3. Check the 12Vdc wire connections between the power supply and the reader are not damaged or disconnected in any way.

ART.4903 CODELOCK

BEEP & LED STATUS	REASON	SOLUTION
Successive short beeps lasting for the duration of the relay time. The **green** LED flashes twice.	Programmed access code entered via the keypad, code **is** stored in the **Art.2270/4G** GSM module.	None, this is normal.
Single low tone followed by **"error"** melody. The green LED flashes, then both LED's switch **ON**. **Green** LED then switches **OFF** while **red** LED stays **ON** for the duration of the **"error"** melody.	Access code entered via the keypad **is not** stored in the **Art.2270/4G** GSM module. **OR** Access code entered via the keypad **is** stored in the GSM module however: 1. The code is assigned to an access level where the keypad's unit ID is incorrect, but the code falls within the required timeband setting. 2. The code is assigned to an access level where the keypad's unit ID is correct, but the code doesn't fall within the required timeband setting. 3. The code entered is only a temporary code.	Access code requires programming into the GSM module **or** the correct code **is** programmed in the GSM module check the following: 1. Confirm if the code has an access level assigned to it, if so check the keypad's unit ID is assigned to that access level. 2. Confirm if the code has an access level assigned to it, if so check the settings of the timeband and confirm when the code should be active for. 3. If a temporary code is programmed it may be that the temporary codes validation time has already expired and the code deleted from the GSM (no further action required as this is normal).

User Management

RECORD SHEET

In order to manage the **Art.2270/4G** 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.

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 4.1.0.36 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, the proximity fob/card numbers and access codes. The software can also be used to download the stored events from the GSM module.

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

- **GSMSK_66251720-EN_V2-2** (or later version)

MANAGING GSM EVENTS REMOTELY

Users can also remotely monitor events in real-time from the **Art.2270/4G** 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.

Details on how to register an online profile for the events application can be found on the website: ***www.videxevents.co.uk***

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 (also see below).

The steps below is a guide on how to setup a GSM to allow event communication between GSM module and events webpage:

1. From the **'My Modules'** page select **'Add new unit'.**
2. Send the following SMS message to the GSM hardware to obtain it's unique 15 digit **IMEI** number:
   - **1111IME?** (please note: **1111** is the default engineers code)
3. Complete the following fields:
   - **IMEI -** 15 digit number obtained from step 2.
   - **Description -** e.g. Videx Front Door.
   - **Model -** Select a GSM model from the available drop down list.
   - **Username -** Create a **username** for the GSM module - minimum 6 characters.
   - **Password -** Create a **password** for the GSM module - minimum 6 characters.
4. Press the **'Register'** button and you will be returned back to the **'My modules'** page where the GSM module will now be listed.
5. Next send the following SMS message to the GSM module replacing **'username'** and **'password'** with the credentials created in step 3:
   - **1111PAS"username","password"?**
6. Determine the SIM card network providers **APN**, **username** and **password** details. This can usually be found on the network providers website (also refer to the table of **APN** details for the most common network providers in the UK on pages 46 - 47).
7. Next send the following SMS message to the GSM module replacing the **APN**, **username** and **password** with the correct network providers information:
   - **1111APN"APN","username","password"?**

   e.g. the SMS message for an **O²** payandgo would be **1111APN"payandgo.o2.co.uk","payandgo","password"?**
8. Finally to enable sending of events, send the following command to the GSM module:
   - **1111ENE01?**

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 **1111SIG?** (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 59: **Art.434/HG/5M** or **Art.434/HG/15M** or another suitable 4G 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 9, 25 and 26).
	Try a full reset (refer to notes on page 28) following the full reset procedure with **A2** and **A3** linked to the **-** terminal.
	Try a different SIM card from a different network provider.
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
	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 7 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 **STN** notes on pages 32 - 33). Also check that the first phone ID to respond to and the last phone ID to respond to is setup correctly (see **SID** and **EID** notes on pages 44 - 45).
	Check the SIM card is fitted correctly (refer to notes on page 27).
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
	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 acompanying 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 pages 7 -8 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 **STN** notes on pages 32 - 33). Also check that the first phone ID to respond to and the last phone ID to respond to is setup correctly (see **SID** and **EID** notes on pages 44 - 45).
	Check the SIM card is fitted correctly (refer to notes on page 27).
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
	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 digital 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 acompanying 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 27) following the master code reset procedure with **A1** 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 9, 25 and 26).
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
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 **not** set up as UNICODE and is set to either GSM alphabet or Automatic. This can ususally 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 **(SPT)** in programming (refer to page 37).
	Check the signal strength (**1111SIG?**) and if necessary, move or change the antenna or try a different SIM card provider.
	Check the signal connection type (**1111CON?**) and if necessary, move or change the antenna or try a different SIM card provider.
Speech echoes and feeds back.	Try lowering the speaker (**VR1**) and mic (**VR2**) volume using the adjustable POTs on the top side of the GSM module (refer to notes page 10).
	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 58).
	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.	Check over the message sent again and compare it with the examples in this manual. Common errors include: 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. 2. Lower case letters instead of upper case. For example using **stn** when **STN** should be used.

Troubleshooting

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).	If the DTMF tone to release the gate/door (or other DTMF tones shown in the first user command table on page 58) does not work then check to see if the **ED#** funtion has been enabled: 1. Send the following SMS command **1111ED#?** to the GSM module and wait for a reply confirming the status of this function. 2. Note: If the **1111EDZ** function (also see notes on pages 43 - 44) 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. Further notes on how to effectively use this function and on the setup of this function can be found on pages 43 - 44.
	If the DTMF tones are not working reliably then try the following adjustments: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=8,2500,1500"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If the option above doesn't resolve the issue then try the following: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=7,2300,1300"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If none of the solutions mentioned above resolve the problem then please contact Videx technical on tel: **0191 224 3174** for further assistance. For overseas customers contact Videx customer support on tel: **(+39) 0734 631 699** for further assistance.

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
28/10/21	VER MD1.2.2	Launch of 4G variant of VX2200 GSM interface module : **Art.2270/4G.**
07/03/22	VER MD1.2.3	Updated and added: new events, additional "no service" recovery, support for **Art.2813** remote relay inc. **RLN** user command. Added SMS messaging service, user code limited SMS functions for users. Send global announcement **SGA** feature also added. Removed **NOD** command (No. of days before auto call) also removed **PRG**, **AT1**, **AT2** and **AT3** commands. Other minor bug fixes.

FURTHER READING

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

- **GSMSK_66251720-EN_V2-2** (or later).

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 pages 7 and 8 for compatible panel types).**
- **VX2200 Digital Intercom Panels (refer to table on pages 7 and 8 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 button module configuration and setup can also be found in the following instructions:

- for the **Art.4842 .. 4845** modules - **66250250 - V4.1** (or later).
- for the **Art.4042 .. 4045** modules - **66250255 - V4.2** (or later).

Additional setup information for the **Art.4850R** expansion proximity reader module, the **Art.4903** keypad module and the **Art.2813** remote relay can be found in the following installation instructions:

- **4850R_66250407-EN_V1-2** (or later).
- **4903_66251800-EN_V1-2** (or later).
- **2813_66251545-EN_V1-0** (or later).

Additional port forwarding, server setup and configuration information can be found in Videx application note:

- **AN0046_RemotelyProgramming4GIntercomsViaPCSoftware**.

Additional programming setup and guidance on the Videx **SMS Wizard PRO** and Videx **SMS Wizard** app can be found in the following Videx application notes:

SMS Wizard PRO -

- **AN0059_GSMPRO_APP_Program_a_Call_Button.**
- **AN0060_GSMPRO_APP_Initial_Setup.**
- **AN0061_GSMPRO_APP_Proximity.**
- **AN0062_GSMPRO_APP_Dial_To_Open.**

SMS Wizard -

- **AN0064_GSM_SMS_App_Dial_To_Open.**
- **AN0065_GSM_SMS_App_Program_A_Call_Button.**
- **AN0066_GSM_SMS_App_Setting_the_Audio_Volumes_Using_the_Phone_Keypad.**

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

- **I.E.T. Wiring Regulations, Eighteenth Edition BS7671:2018** (or later).

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

Notes

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 apropriados 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 apropriada 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 possible presencia de substancias 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 doorgekruiste 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.

POR **ELIMINAÇÃO**

De acordo com o Decreto Legislativo n.º 49 de 14 de março de 2014 "Implementação da Diretiva 2012/19/UE relativa aos resíduos de equipamentos elétricos e eletrónicos (REEE)".
O símbolo do caixote do lixo riscado no equipamento ou na embalagem indica que quando o produto atinge o fim da sua vida útil, deve ser recolhido separadamente dos resíduos urbanos mistos. O utilizador deve, portanto, eliminar o equipamento no final da sua vida útil nos centros de recolha de resíduos adequados ou levá-lo ao vendedor durante a compra de um novo equipamento de tipo equivalente, na proporção de um para um. Além disso, o utilizador pode eliminar gratuitamente os REEE de dimensões muito reduzidas aos vendedores, sem qualquer obrigação de compra.(só aparelhos domésticos sem qualquer dimensão externa que exceda 25 cm, ou seja 9,84 polegadas).
A correta eliminação dos REEE contribui para a sua reutilização, reciclagem e recuperação e evita potenciais efeitos negativos sobre o ambiente e a saúde humana devido à possível presença de substâncias perigosas no seu interior.

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CE UK CA

The product is CE marked demonstrating its conformity and is for distribution within all member states of the EU with no restrictions. This product follows the provisions of the European Directives 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS): CE marking 93/68/EEC.

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