

VX2200 / VX2300 4G GSM MODULE

GSM Interface Module for the VX2200 & VX2300 Digital Systems

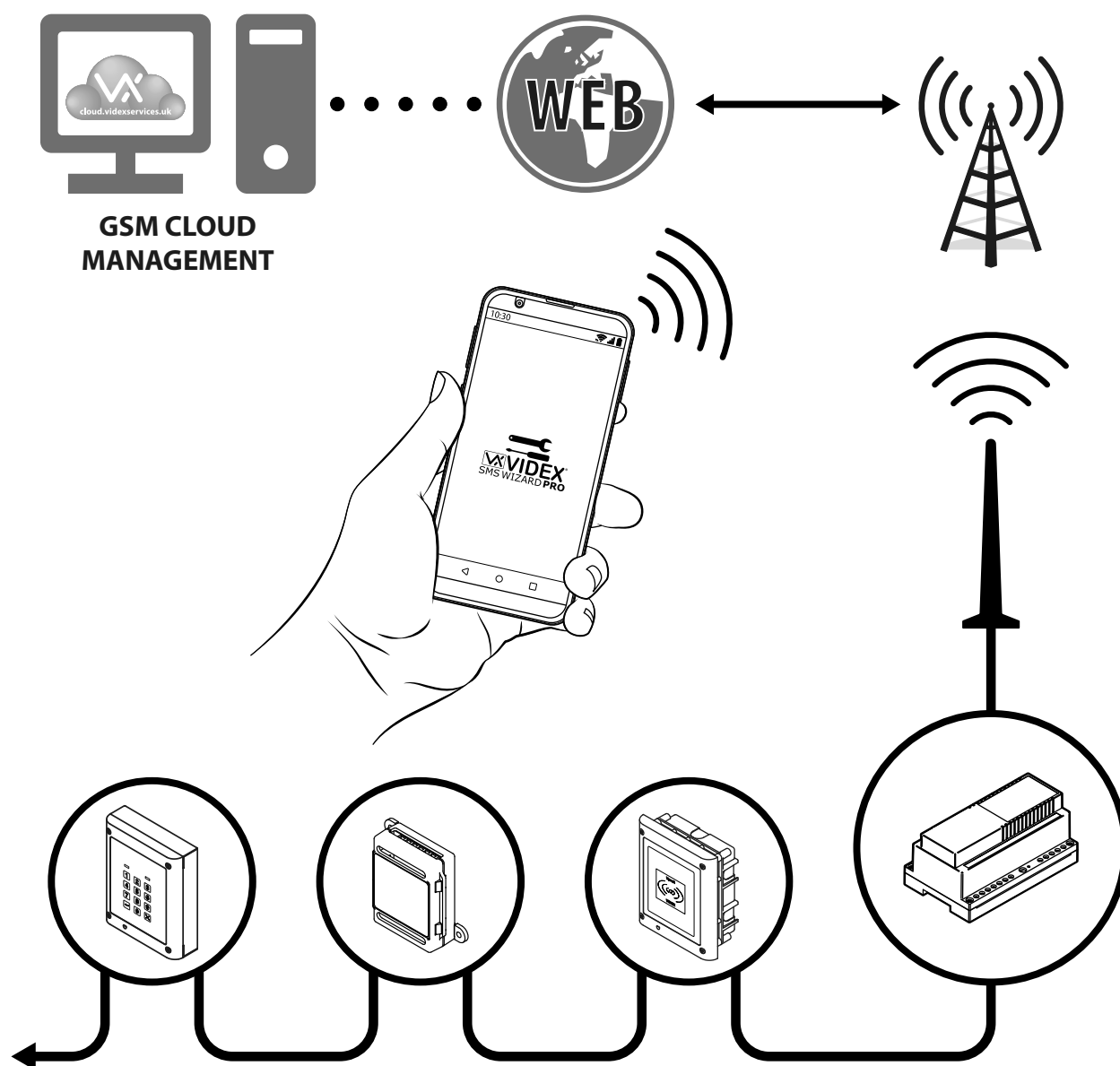
ART. 2870



VX2200



VX2300



Technical Manual



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! IN ORDER 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.

VULNERABILITY POLICY

VIDEX have an ongoing policy to improve its software and firmware while keeping backward compatibility a high priority, this includes adding new features, correcting software/firmware issues and adapting to platform and operating system changes. These updates will be available for the full life of the product.

MANUFACTURER



VIDEX ELECTRONICS S.P.A.

Via del Lavoro, 1 - 63846 Monte Gilberto (FM) Italy
 Tel: (+39) 0734-631699 - Fax: (+39) 0734-632475
 www.videx.it - info@videx.it

CUSTOMER SUPPORT

All Countries:
VIDEX ELECTRONICS S.P.A.
 www.videx.it - technical@videx.it
 Tel: (+39) 0734-631699 - Fax: (+39) 0734-632475

UK Customers:
VIDEX SECURITY LTD.
 www.videxuk.com - tech@videxuk.com
 Tel: (+44) 0370 300 1240 - Tech Line: (+44) 0191 224 3174



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).

Contents

Introduction	4
System Components.....	7
Technical Information	10
Wiring Diagrams	12
Auxiliary Inputs & Relay Outputs	18
USB & RS485 Connection to a PC.....	22
Connection to a Reader, Keypad or Relay.....	23
General Directions for Installation.....	25
Fitting the SIM & Connecting Power	28
Reset Procedure.....	29
Programming the GSM Module.....	30
The GSM Mobile Apps	59
System Operation	60
User Commands.....	61
Additional User Information.....	63
User Management	65
Troubleshooting	66
General Information.....	69
Notes.....	70

Introduction

MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the **Art.2870** GSM interface for both the VX2200 and VX2300 digital systems. **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 Electronics S.P.A.** and **VIDEX Security Ltd (UK).**

It is recommended that the GSM interface 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: (+44) 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 e-mail: 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.2870** GSM interface 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 both the VX2200 and VX2300 digital systems. It enables a call to be made from an entry point (door, gate etc.) to any telephone number (mobile or land line).

It connects directly to the 2 wire bus (L / - databus for the VX2200 and **BUS/BUS** for the VX2300) and is compatible with the full range of VX2200 and VX2300 intercom panels respectively (both functional and digital). This flexibility allows the GSM interface to be integrated into small or large VX2200 or VX2300 digital systems that also comprises of Videx audiophones and videophones (e.g. **Art.3171**, **Art.6276** etc. for the VX2200 system and **Art.3183**, **Art.6286** etc. for the VX2300 system).

The GSM interface can be setup to operate in either VX2200 mode or VX2300 mode, depending on the system requirement, by a series of dip-switches. Once setup in the desired system operating mode it is possible to program up to 180 users for the VX2200 system and up to 100 users for the VX2300 system 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). Key features of the GSM interface are shown in the following table.

Feature	VX2200 mode	VX2300 mode
Programmable phone ID range	ID.1 up to ID.180	ID.1 up to ID.100
Programmable Telephone No's	4 per phone ID : 1x primary no. (pn), 3x divert no. (d1, d2 and d3).	
Dry contact relays (NO, CO and NC)	2 : relay R1 and relay R2.	
Auxiliary inputs	2 : switched 0V auxiliary inputs A1 and A2.	
RS485 bus connection	Yes : to connect Art.4850R proximity readers, Art.4903 keypads (total of 8 devices), Art.2813 remote relays (total of 64 devices) for networkable access control and Art.2815 Wiegand to RS485 converter (to allow connection of 3rd party Wiegand proximity readers or keypads). It can also used for ease of programming using the GSMSK PC software (version 4.2.0.0 or later).	
USB input	Yes : for ease of programming using the GSMSK PC software (version 4.2.0.0 or later).	
Programmable automated messages	2 : automated SMS messages triggered by the auxiliary inputs A1 and A2.	
Apartment alarm signal which can activate the relays and/or send an SMS message to the master number	Yes : on the L / - databus.	Yes : on the BUS/BUS databus.
Dial to open (DTO) facility	1000 DTO numbers (000 - 999) per relay (R1 and R2).	
Temporary dial to open (DTO) numbers	32 temporary DTO numbers for relay R1 only (1 - 255 hours).	
Programmable phone ID timebands (TBA)	10 timebands : (0 - 9) including days - Monday - Friday, Saturday, Sunday & Holidays.	
Programmable access control timebands (ATB)	10 timebands : (0 - 9) including days - Monday - Friday, Saturday, Sunday & Holidays.	
Programmable free access timebands (FRE)	10 timebands : (0 - 9) including days - Monday - Friday, Saturday, Sunday & Holidays for relay R1 and relay R2 with latch and momentary trigger facility for each relay.	
Programmable access levels (ACC)	10 access levels : (0 - 9) for relay R1 and relay R2 DTO numbers (000 - 999), also for proximity and coded access facility (when connected to Art.4850R proximity readers and/or Art.4903 keypads via RS485 bus).	
Programmable user fobs/cards	2000 user fobs/cards (0000 - 1999) inc. assigning access control timebands (0 - 9) and access levels (0 - 9) when Art.4850R proximity reader connected via RS485 bus.	
Programmable user door/gate access codes	400 access codes (000 - 399) inc. assigning access control timebands (0 - 9) and access levels (0 - 9) when Art.4903 keypad connected via RS485 bus and also with relay selection function (R1 and/or R2).	

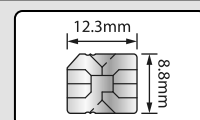
Introduction

Features continued...	VX2300 mode	VX2300 mode
Temporary user door/gate access codes	32 temporary access codes (1 - 255 hours) for Art.4903 keypad with relay selection function (R1 and/or R2).	
Time correction function	Automatic time correction features and daylight saving time adjustment.	
Remote programming facility	Yes : remotely program the GSM interface 'over the air' using the GSMSK PC software (version 4.2.0.0 or later) without the need to connect a PC or laptop directly to the interface via the USB or RS485 connections. The interface can also be linked to the GSM cloud management platform, a web browser based application to remotely manage any number of Videx 4G GSM products (via cloud.videxservices.uk) from anywhere with an internet connection.	
Other programmable methods	Program via SMS text messages (refer to the notes programming the GSM module further on in this manual), also a limited number of programming features can be carried out using the Videx SMS Wizard (for administrators) or for more in depth programming using the Videx SMS Wizard PRO (for installers), see notes on the GSM mobile Apps further on in this manual.	
Event logging facility	Yes : stores up to 8000 events which can be downloaded via the GSMSK PC software. Unlimited events can also be remotely monitored in real time (refer to user management notes further on in this manual).	
Integrated bootloader function	Yes : for updating GSM module's firmware via the GSMSK PC software.	

SIM CARD SELECTION



IMPORTANT: A SIM IS REQUIRED FOR THIS PRODUCT BUT NOT SUPPLIED BY VIDEX. THE ART.2870 GSM INTERFACE 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** further on in this manual.

PRECAUTIONARY ADVICE

- When mounting the GSM antenna, choose a location which is away from human interaction and away from the interface. 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, O₂ 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).

Introduction

- Voicemail and text alerts must be switched **OFF** on the SIM card when using the dial in to release the door/gate feature. For **Vodafone** and **O₂** this can be done while the SIM card is in the interface module. 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 interface'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 interface. 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 for example offer unlimited calls and texts) and also with a sufficient data plan. **You will need to contact the network provider directly or visit their website to set this up.**

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

System Components

DESCRIPTION

For the **Art.2870** GSM interface to work the system requires any intercom panel from the VX2200 or VX2300 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 respective VX2200 or VX2300 digital systems the **Art.2870** GSM interface connects to the 2 wire databus (L / - for the VX2200 and **BUS/BUS** for the VX2300). As previously mentioned in the introduction programming of the GSM interface can be carried out by one of the following methods: i) sending text (SMS) messages, ii) by using the **GSMSK** PC software (ver **4.2.0.0** or later), also refer to the latest programming manual **GSMSK_66251720-EN_V2-3** (or later), iii) by using the GSM mobile apps: **Videx SMS Wizard** (for administrators) and the **Videx SMS Wizard PRO** (for installers and engineers), iv) or by using the **GSM cloud** management platform (via cloud.videxservices.uk).

COMPATIBLE VX2200 AND VX2300 INTERCOM PANELS

The following table shows the range of VX2200 and VX2300 intercom panels that can be used with the **Art.2870** GSM interface module:

VX2200 System Functional Intercom Panels
Art.4204-n, Art.4204X-n (audio)
4000 series modular audio panel range, where n = 0, 1 or 2 buttons. When using the audio panel the appropriate 4000 series button module(s) may be required, Art.4042..Art.4045 series, depending on the size of the system.
Art.4284-n, Art.4284X-n (audio & video)
4000 series modular audio/video panel range, where n = 0, 1 or 2 buttons. When using the audio/video panel the appropriate 4000 series button module(s) may be required, Art.4042..Art.4045 series, depending on the size of the system.
Art.8203-n (audio)
8000 series modular audio panel range, 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 series, depending on the size of the system.
Art.VR4KAM2W-n (audio)
Vandal Resistant 4000 series modular audio panel range, 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 series, depending on the size of the system.
VR120/138-n (audio), VR120/138-n/CL (audio + codelock), VR120/138-n/PR (audio + proximity)
Vandal Resistant VR120 series audio panels, including panels with codelocks and/or proximity, where n = the number of call buttons required (up to 24).
VR120/138-n/V (audio & video), VR120/138-n/V/CL (audio & video + codelock), VR120/138-n/V/PR (audio & video + proximity)
Vandal Resistant VR120 series audio/video panels, including panels with codelocks and/or proximity, where n = the number of call buttons required (up to 24).
VR130/2W-n, VR130/2W-n/NP (audio & video), VR130/2W-n/CL (audio & video + codelock), VR130/2W-n/PR (audio & video + proximity)
Vandal Resistant VR130 series audio/video panels, including panels with codelocks and/or proximity, where n = the number of call buttons required (up to 24). Also includes nameplate (NP) version panels.
VX2200 System Digital Intercom Panels
Art.4202 series (audio)
4000 series modular digital audio panels (with A-F alpha-numeric keypad, Art.4202 or name scroll facility, Art.4202/R).
Art.4202V series (audio & video)
4000 series modular digital audio/video panels (with A-F alpha-numeric keypad, Art.4202V or name scroll facility, Art.4202/RV).
Art.8202 series (audio)
8000 series modular digital audio panels (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 audio/video panel with colour camera and bezel box.
Art.4212 series (audio)
Vandal Resistant 4000 series modular digital audio panels (Art.4212 with A-F alpha-numeric keypad or Art.4212R with name scroll facility). Including Art.4212/UK and Art.4212R/UK versions with bezel box.
Art.4212V series (audio & video)
Vandal Resistant 4000 series modular digital audio/video panels (Art.4212V with A-F alpha-numeric keypad or Art.4212RV with name scroll facility). Including Art.4212V/UK and Art.4212RV/UK versions with bezel box.

System Components

VX2300 System Functional Intercom Panels

Art.4304-n, Art.4304X-n (audio)

4000 series modular audio panel range, where **n** = 0, 1 or 2 buttons. When using the audio panel the appropriate 4000 series button module(s) may be required, **Art.4042..Art.4045** series, depending on the size of the system.

Art.4384-n, Art.4384X-n (audio & video)

4000 series modular audio/video panel range, where **n** = 0, 1 or 2 buttons. When using the audio/video panel the appropriate 4000 series button module(s) may be required, **Art.4042..Art.4045** series, depending on the size of the system.

VR130/ES-n, VR130/ES-n/NP (audio & video), VR130/ES-n/CL (audio & video + codelock), VR130/ES-n/PR (audio & video + proximity)

Vandal Resistant VR130 series audio/video panels, including panels with codelocks and/or proximity, where **n** = the number of call buttons required (**up to 42**). Also includes nameplate (NP) version panels.

VX2300 System Digital Intercom Panels

Art.4312 series (audio)

Vandal Resistant 4000 series modular digital audio panels (**Art.4312** with A-F alpha-numeric keypad or **Art.4312R** with name scroll facility). Including **Art.VR4212** and **Art.VR4212R** versions with bezel box.

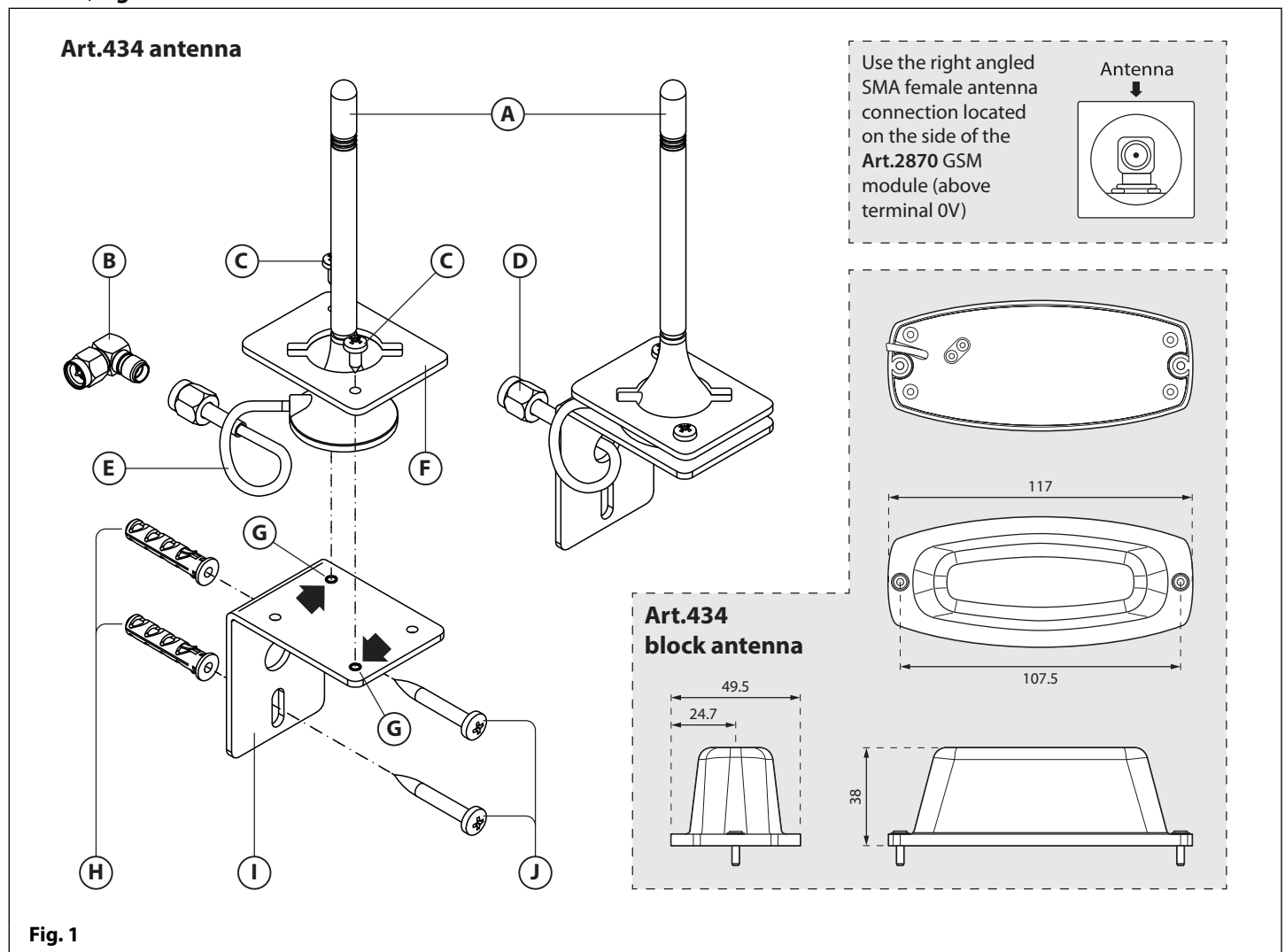
Art.4312V series (audio & video)

Vandal Resistant 4000 series modular digital audio/video panels (**Art.4312V** with A-F alpha-numeric keypad or **Art.4312RV** with name scroll facility). Including **Art.VR4312V** and **Art.VR4312RV** versions with bezel box.

IMPORTANT NOTE: Intercom panel setup and configuration for the compatible panel types listed in the table can be found in the relevant installation instructions that are provided with 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 GSM interface, 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.



System Components

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).

IMPORTANT NOTE: 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 Art.2870 GSM interface 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)

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

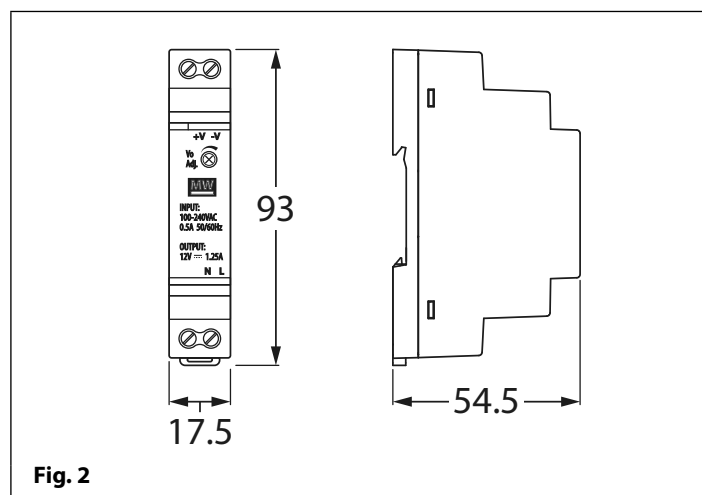


Fig. 2

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. 2870 GSM INTERFACE MODULE

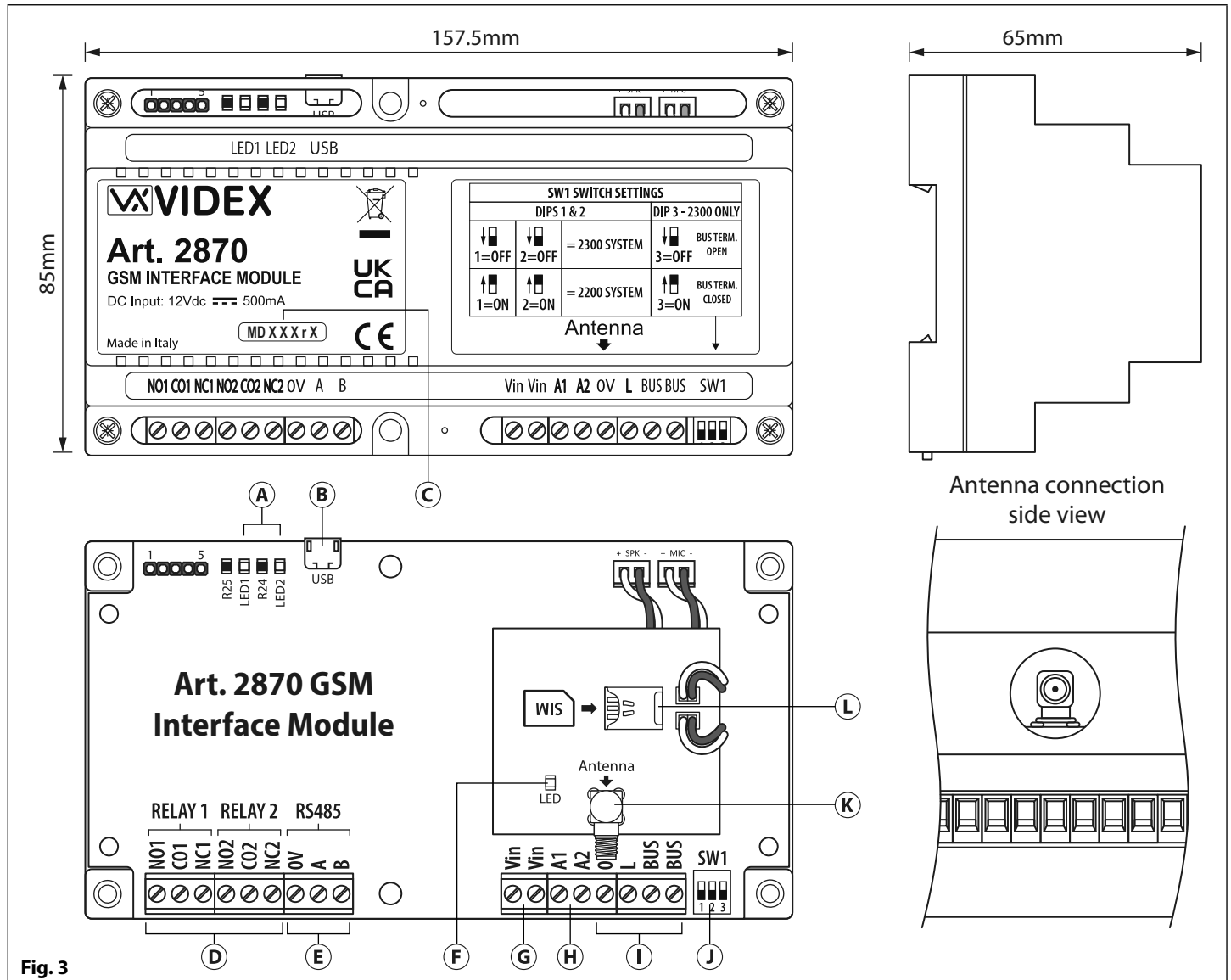


Fig. 3

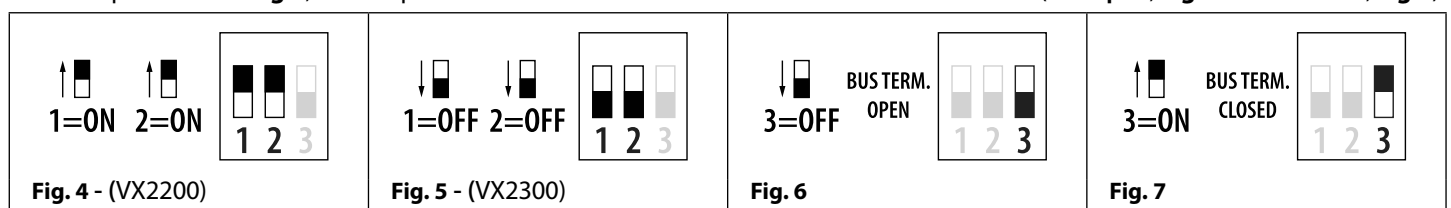
LEGEND

- (A) Status indication LED's (LED1/LED2).
- (B) Micro USB connection.
- (C) Current firmware version*: MD XXXrX.
- (D) Relay outputs (NO/CO/NC) for relays R1 and R2.
- (E) RS485 bus terminals (0V, A and B).
- (F) Power & network (2G, 3G or 4G) status indication LED.
- (G) 12Vdc power input terminals (Vin/Vin).
- (H) Auxiliary input terminals (A1/A2).
- (I) Databus terminals (0V/L for VX2200, BUS/BUS for VX2300).
- (J) Digital system selection dip-switches (SW1).
- (K) SMA Antenna connection.
- (L) SIM card holder (for 12.3mm x 8.8mm nano SIM).

* refer to firmware revision table on page 65 for current firmware.

DIGITAL SYSTEM OPERATING MODE (SW1)

The Art.2870 GSM interface can be setup to operate on either the VX2200 digital system or the VX2300 digital system by setting the 3 way dip-switch SW1, (Fig.3, J). Dip-switches 1 and 2 sets the digital system operating mode, for VX2200 operation see Fig.4 and for VX2300 operation see Fig.5, while dip-switch 3 sets the bus termination for the VX2300 databus (bus open, Fig.6 or bus closed, Fig.7).



Technical Information

USB CONNECTION

The micro-USB connection allows the **Art.2870** GSM module to be connected to a PC for ease of programming (refer to **USB & RS485 connection to a PC** notes further on in this manual for more details). Further information on programming using the **GSMSK** PC software can be found in the following manual: **GSMSK_66251720-EN_V2-3** (or later version).

TERMINAL CONNECTIONS

Terminals	Description
NO1, CO1 & NC1	Relay 1 contacts (normally open 1, common 1 and normally closed 1)
NO2, CO2 & NC2	Relay 2 contacts (normally open 2, common 2 and normally closed 2)
0V, A & B	RS485 bus connection, used for networking with Art.4850R proximity readers and Art.4903 keypad, connecting Art.2813 remote relays and Art.2815 Wiegand to RS485 converters and programming via GSMSK software.
Vin	+12Vdc/GND power input (500mA max.).
Vin	
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).
0V	VX2200 databus terminals.
L	
BUS	VX2300 databus terminals.
BUS	

Relay 1 and 2 contacts:
3A@24Vdc, 3A@120Vac

STATUS INDICATION LED'S

LED	Description
	During 'power up' the red LED1 will flash continuously while trying to connect the Art.2870 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.
	When the Art.2870 module is in use the green LED2 will flash whenever it sees data on the bus connection (L/- for a VX2200 system and BUS/BUS for a VX2300 system). 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.).
Digital Systems:	VX2200 and VX2300.	Telephone No's per ID:	4 numbers (1 primary, 3 diverts).
Phone ID's (users):	ID.1 up to ID.180 (VX2200).	Proximity fobs/cards:	2000 (0000 - 1999) inc. acc levels.
	ID.1 up to ID.100 (VX2300).	Access Codes:	400 (000 - 399) inc. acc levels.
Dial to Open No's:	1000 DTO per relay R1 & R2 (000 - 999) both with access levels.	Temporary Access Codes:	32 (1 - 255hrs).
Temp. Dial to Open No's:	32 DTO's for R1 only (1 - 255hrs).	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 0V (refer to table above).		
Auxiliary Inputs:	A1 & A2 (switched 0V input).	Dry Contact Relays:	R1 & R2, 3A @ 24Vdc, 3A @ 120Vac
Programming Method:	SMS messaging, GSMSK PC software inc. the 'over the air' feature, GSM mobile apps - the SMS Wizard (for admins) or the SMS Wizard PRO (for installers). GSM cloud platform (register for an account via cloud.videxservices.uk).	Timebands:	10 timebands (0 - 9) TBA for phone ID's, 10 access control timebands (0 - 9) ATB for DTO's, code & prox.
		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.
Event Log:	8000 stored events (unlimited via remote event logging facility).	Module Dimensions:	157.5 (W) x 85 (L) x 65 (D) mm 9 modules A type DIN box.
Working Temp:	-10 +50°C.		

Wiring Diagrams

4000 SERIES AUDIO INTERCOM PANEL CONNECTIONS (VX2200 SYSTEM)

The wiring diagram, **Fig.8**, shows the wiring for a 4000 series audio intercom panel, in this example an **Art.4204-2** (speaker) functional panel. The wiring configuration of the panel's buttons can be found in the relevant installation instructions that are supplied with the speaker module. The same wiring diagram can also be used for other series functional panels (i.e. 8000 series and VR4K series).

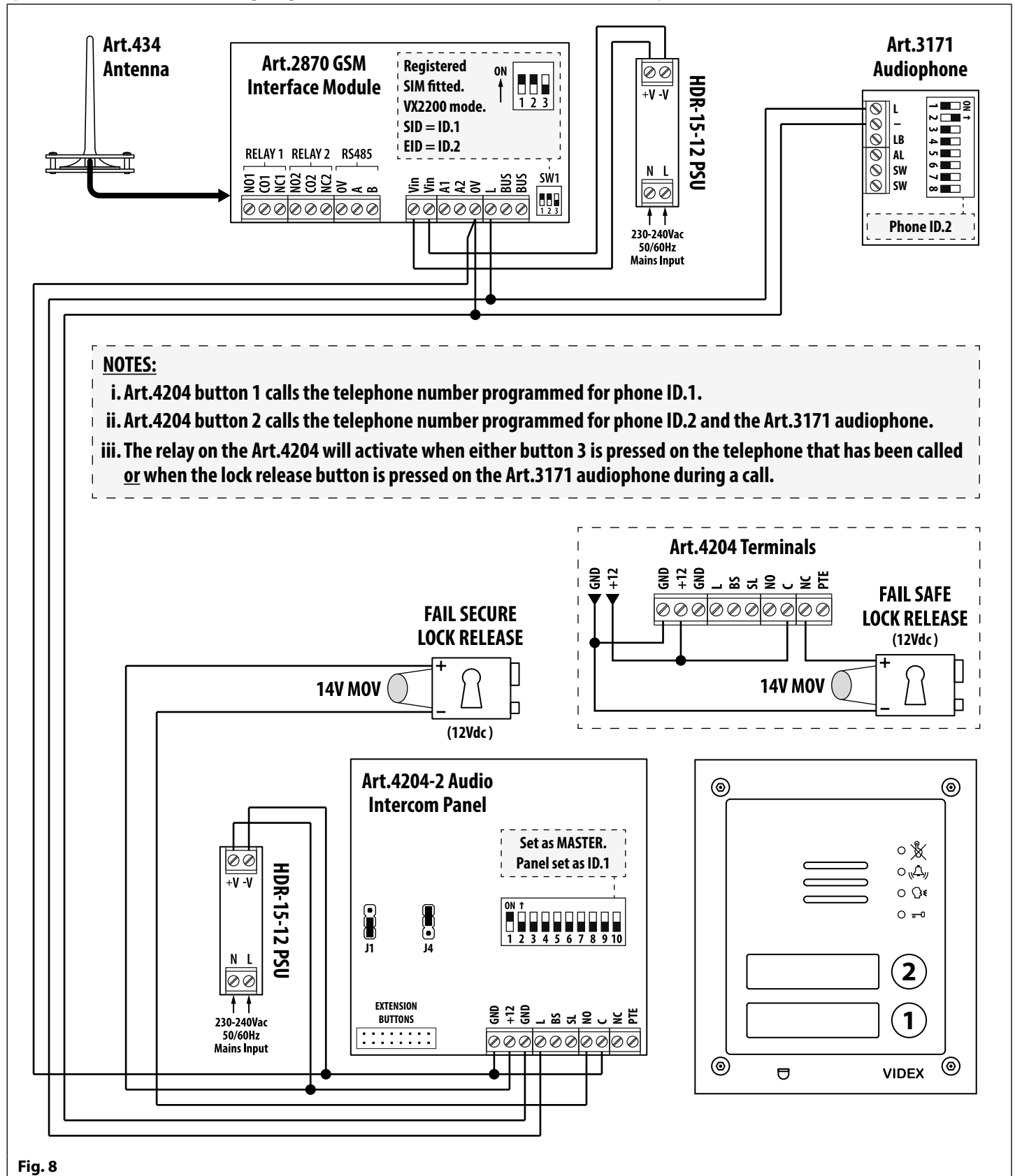


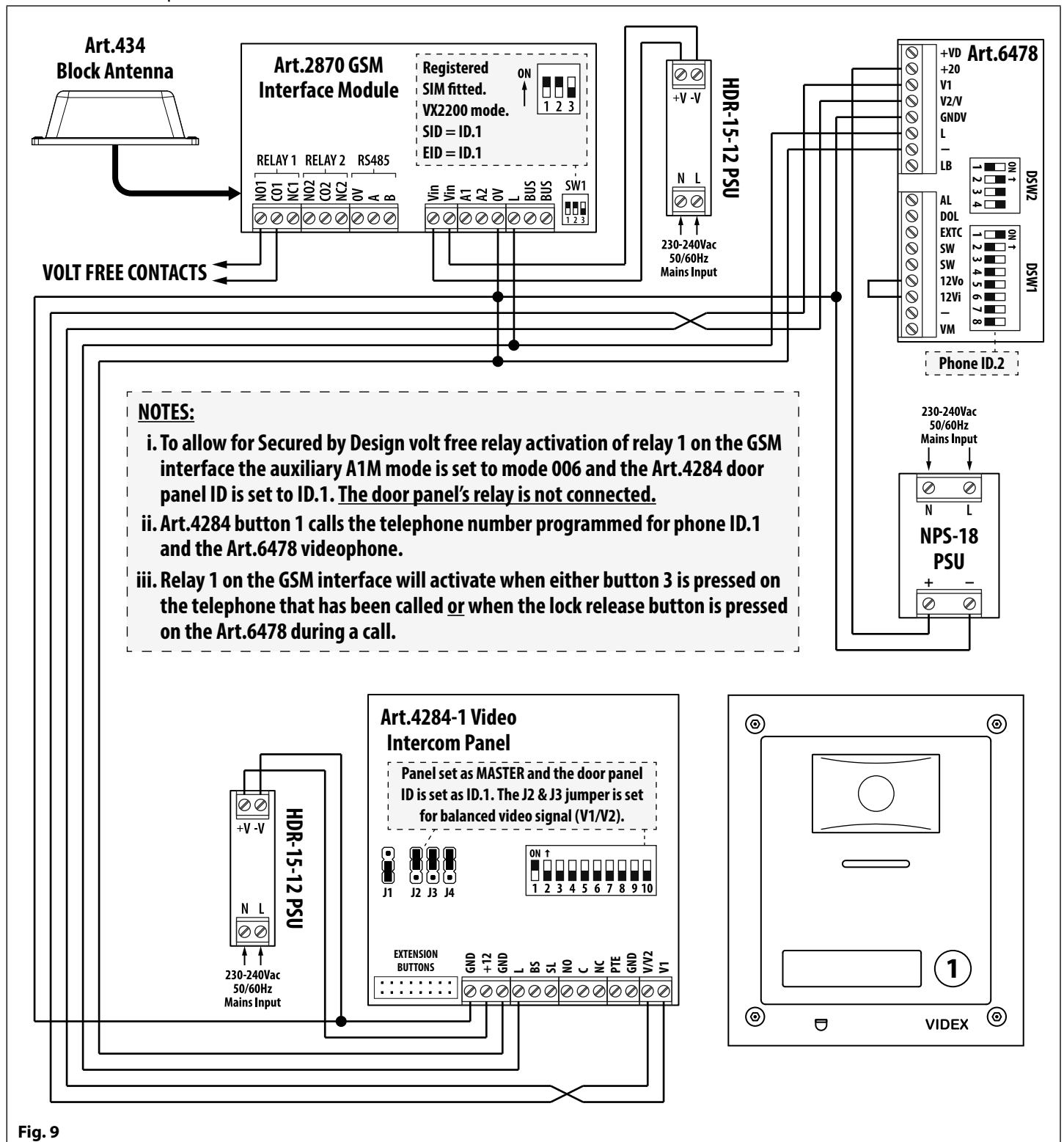
Fig. 8

A fail secure lock release is shown, for fail safe lock release connections, see **Fig.5** inset. The positive of the 12Vdc psu is wired through the C/NC relay terminals of the **Art.4204** module and into the positive side of the 12Vdc lock. The negative of the psu is wired directly into the negative side of the lock.

Wiring Diagrams

4000 SERIES AUDIO/VIDEO INTERCOM PANEL, SECURED BY DESIGN LOCK WIRING, (VX2200 SYSTEM)

The following wiring diagram, **Fig.9**, shows the wiring connections for a 4000 series audio/video intercom panel, in this example an **Art.4284** functional panel.



In the example above, **Fig.6**, to meet the Secured by Design specification the volt free contacts are connected directly from relay 1 on the GSM interface. The GSM interface would be located in a secure location away from the audio/video intercom door panel with only the connections for the L/- databus and power connections from a local 12Vdc power supply. The **Art.4284** panel ID is set to **ID.1** and the auxiliary **A1M** mode on the **Art.2870** would be set to mode **006**. When the lock release signal is received by the GSM interface from the telephone number being called from the interface or from when the lock release button on the **Art.6478** hands-free videophone is pressed during a call it will activate relay 1 on the GSM interface. In this example the relay on the **Art.4284** panel is not connected. A further example is shown in **Fig.20**, page 21. Further details on how to setup the **A1M** mode can be found in the programming section.

Wiring Diagrams

VANDAL RESISTANT DIGITAL AUDIO INTERCOM PANEL (VX2200 SYSTEM)

The wiring diagram, **Fig.10**, shows the wiring connections for a Vandal Resistant series audio digital panel, in this example an **Art.4212** digital panel. The programming and configuration of the panel's apartment ID's can be found in the relevant installation instructions that are supplied with the digital panel.

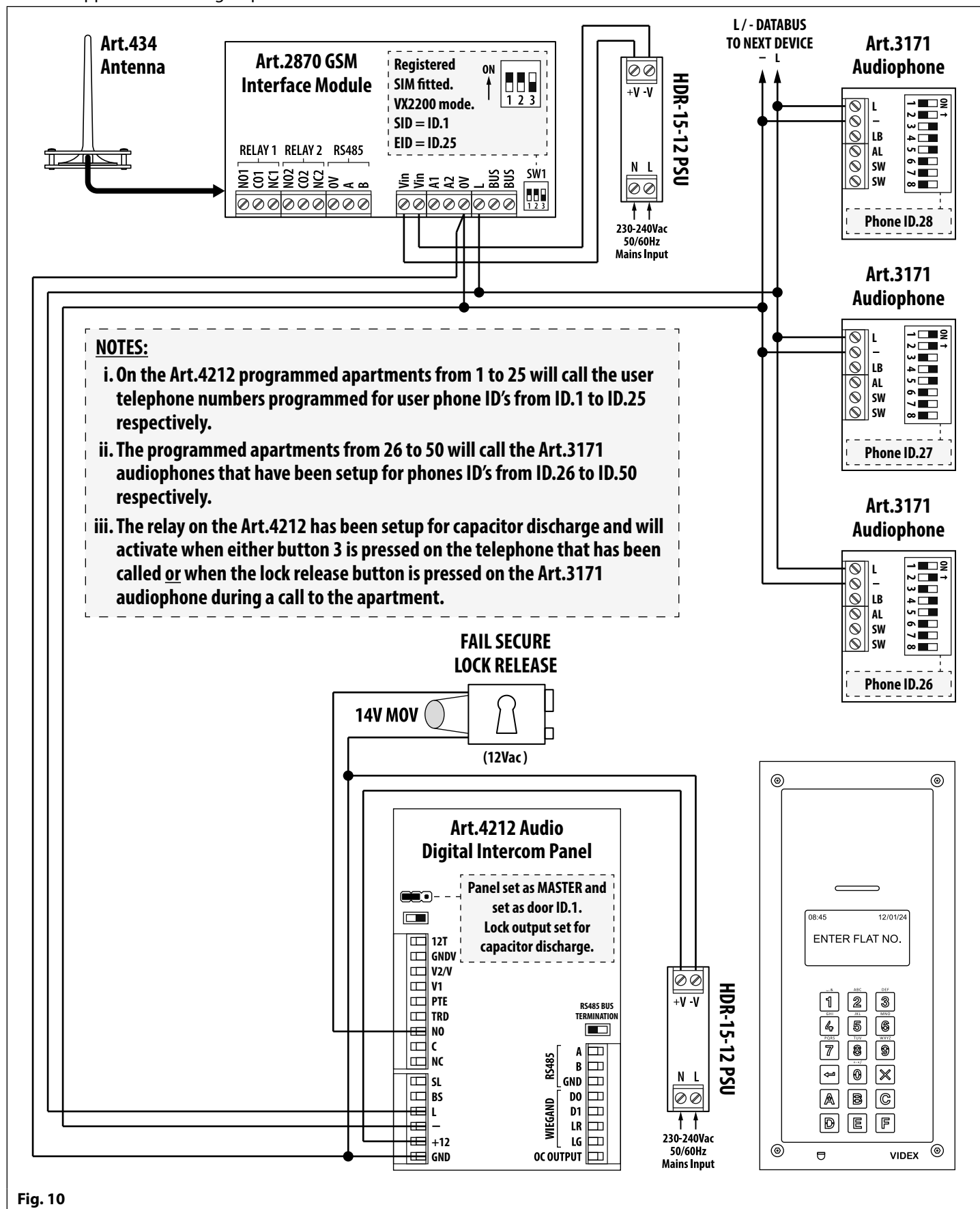


Fig. 10

Wiring Diagrams

4000 SERIES AUDIO INTERCOM PANEL CONNECTIONS (VX2300 SYSTEM)

The wiring diagram, **Fig.11**, shows the wiring for a 4000 series audio intercom panel, in this example an **Art.4304-2** (speaker) functional panel connected to an **Art.4045** button module via an **Art.CFL17** ribbon cable. The wiring configuration of the panel's buttons can be found in the relevant installation instructions that are supplied with the speaker module.

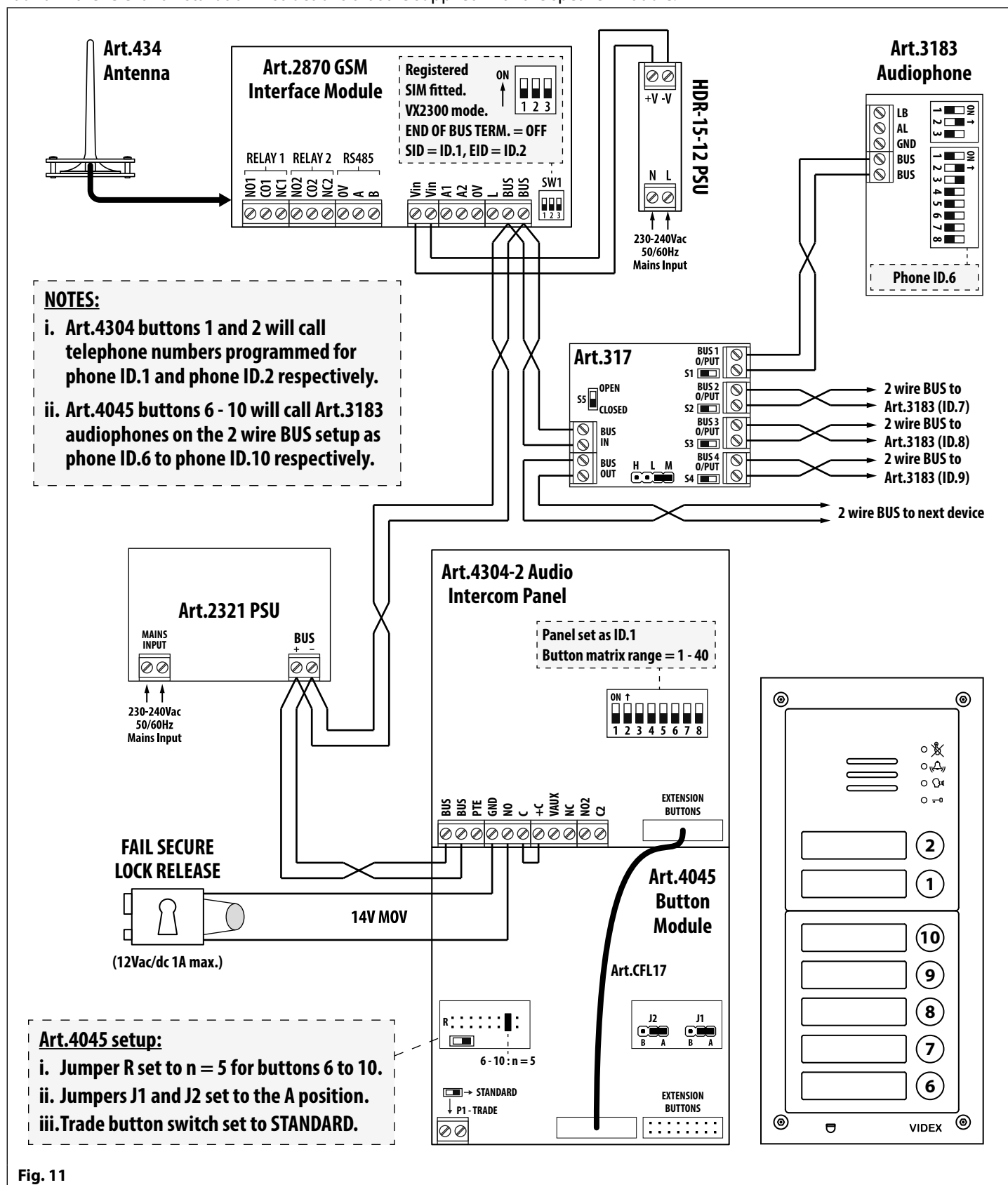


Fig. 11

A fail secure lock release is shown for fail safe lock release connections a separate 12Vdc psu will be required capable of supplying a sufficient current for the lock and should be wired through the C/NC relay terminals of the **Art.4304** module to power the lock.

Wiring Diagrams

4000 SERIES AUDIO/VIDEO INTERCOM PANEL (VX2300 SYSTEM)

The following wiring diagram, **Fig.12**, shows the wiring connections for a 4000 series audio/video intercom panel, in this example an **Art.4384** functional panel. The configuration of the panel's device ID, relay time etc. can be found in the relevant installation instructions that are supplied with the audio/video intercom panel.

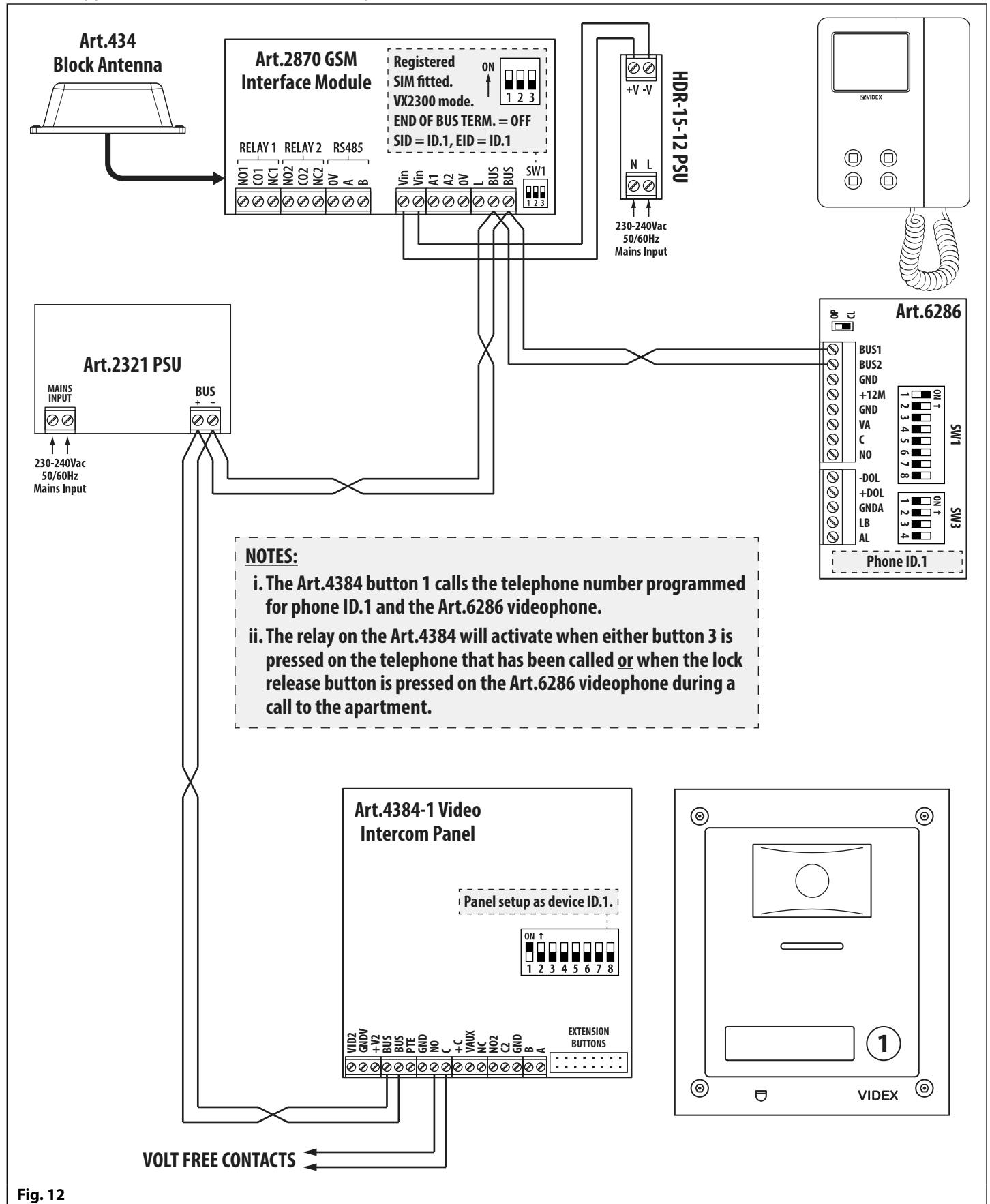


Fig. 12

Wiring Diagrams

VANDAL RESISTANT DIGITAL AUDIO/VIDEO INTERCOM PANEL (VX2300 SYSTEM)

The wiring diagram, **Fig.13**, shows the wiring connections for a Vandal Resistant series audio/video digital panel, in this example an **Art.VR4312RV** digital panel. The programming and configuration of the panel's apartment ID's can be found in the relevant installation instructions that are supplied with the digital panel. For fail safe lock release wiring refer to **Fig.13** inset.

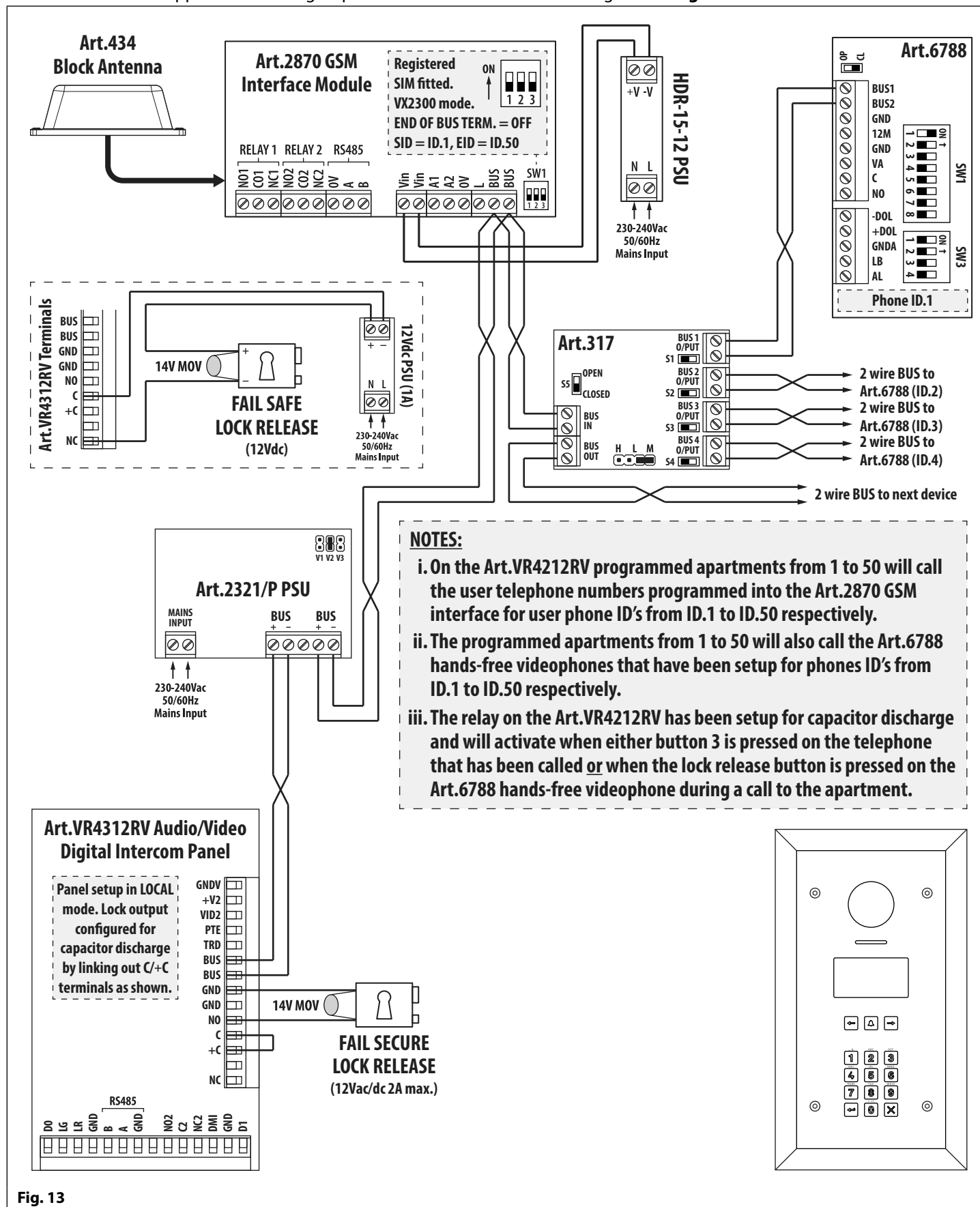


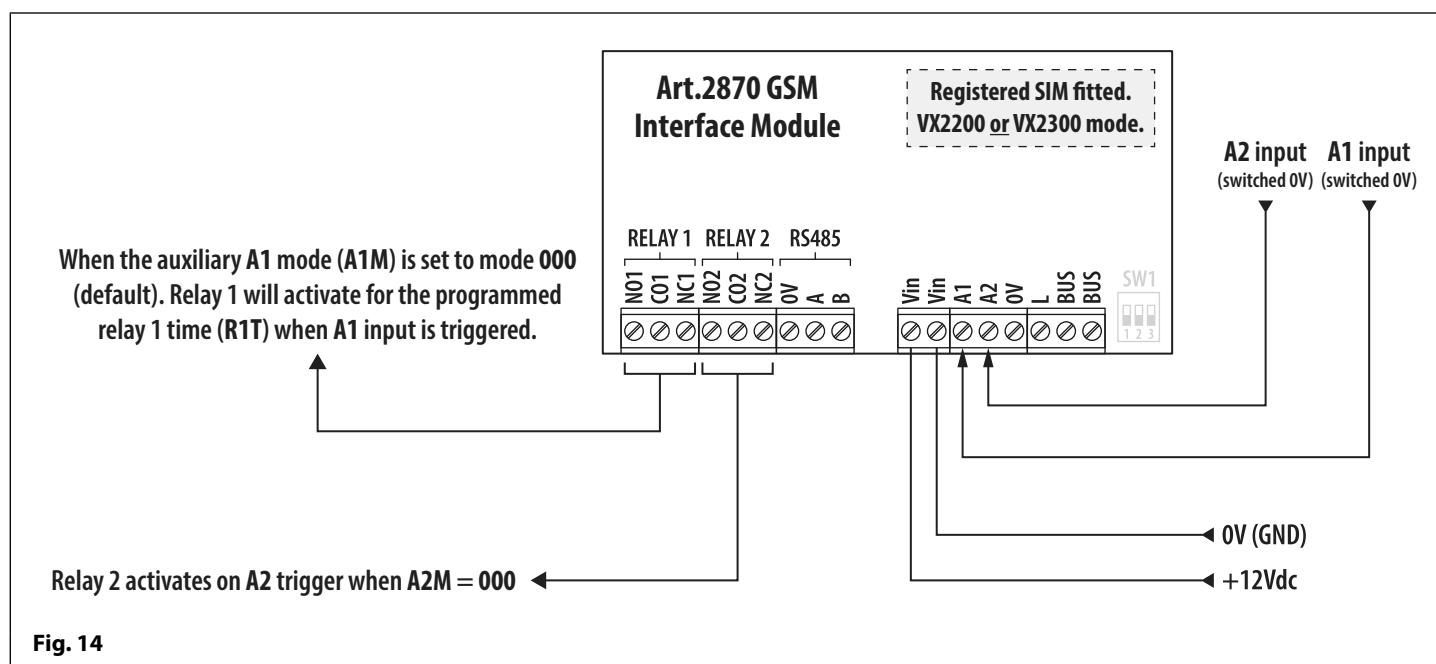
Fig. 13

Auxiliary Inputs & Relay Outputs

The Art.2870 interface's auxiliary modes A1M and A2M (for both VX2200 and VX2300 operating modes) can be programmed to 7 different modes (000 - 006), please refer to programming notes further on in this manual on how to set up the auxiliary output modes. The auxiliary modes can also be programmed by using i) the SMS Wizard PRO mobile app, ii) the GSM SK PC software (ver 4.2.0.0 or later), please refer to the latest programming manual GSM SK_66251720-EN_V2-3 (or later) and iii) the GSM cloud management platform (via cloud.videxservices.uk).

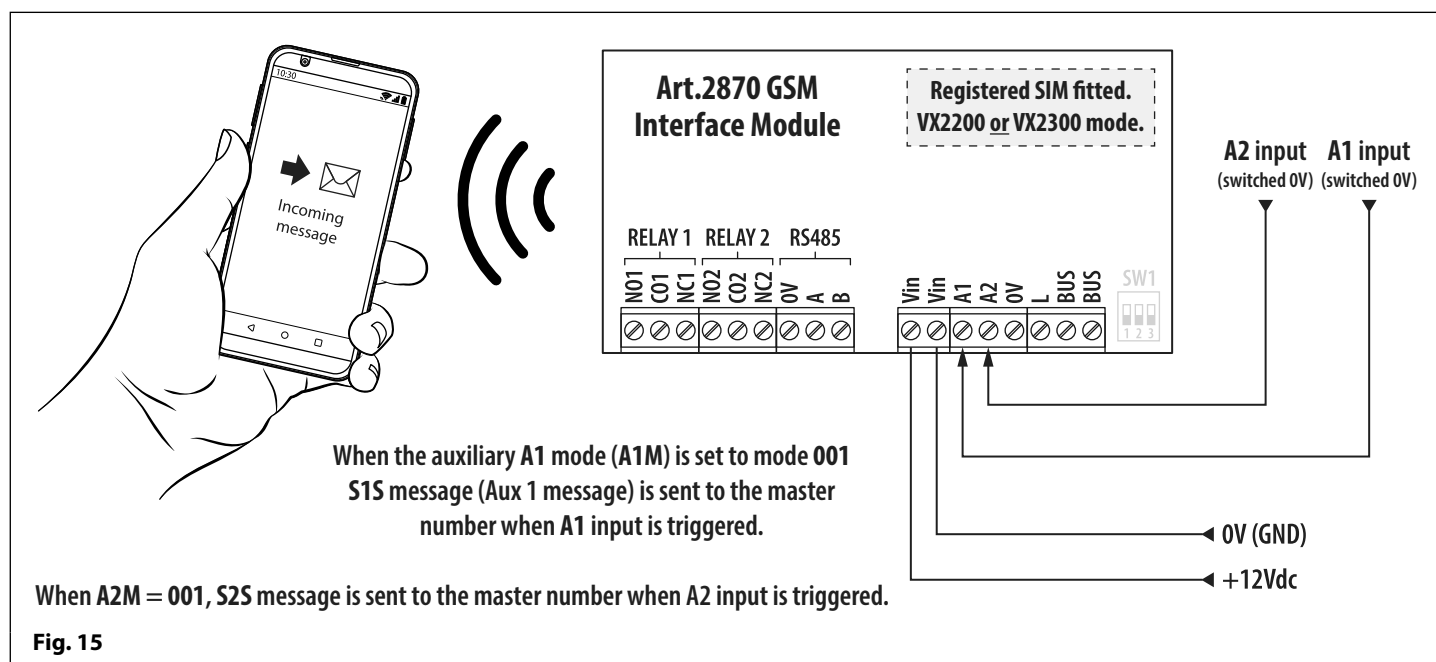
AUXILIARY A1M AND A2M SET TO MODE 000 (TRIGGERS RESPECTIVE RELAY 1 OR 2)

The example shown in **Fig.14** 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 setup and setting relay 1 and 2 times). The auxiliary mode setup can also be applied for A2M and will activate relay 2 for the programmed relay 2 R2T time.



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

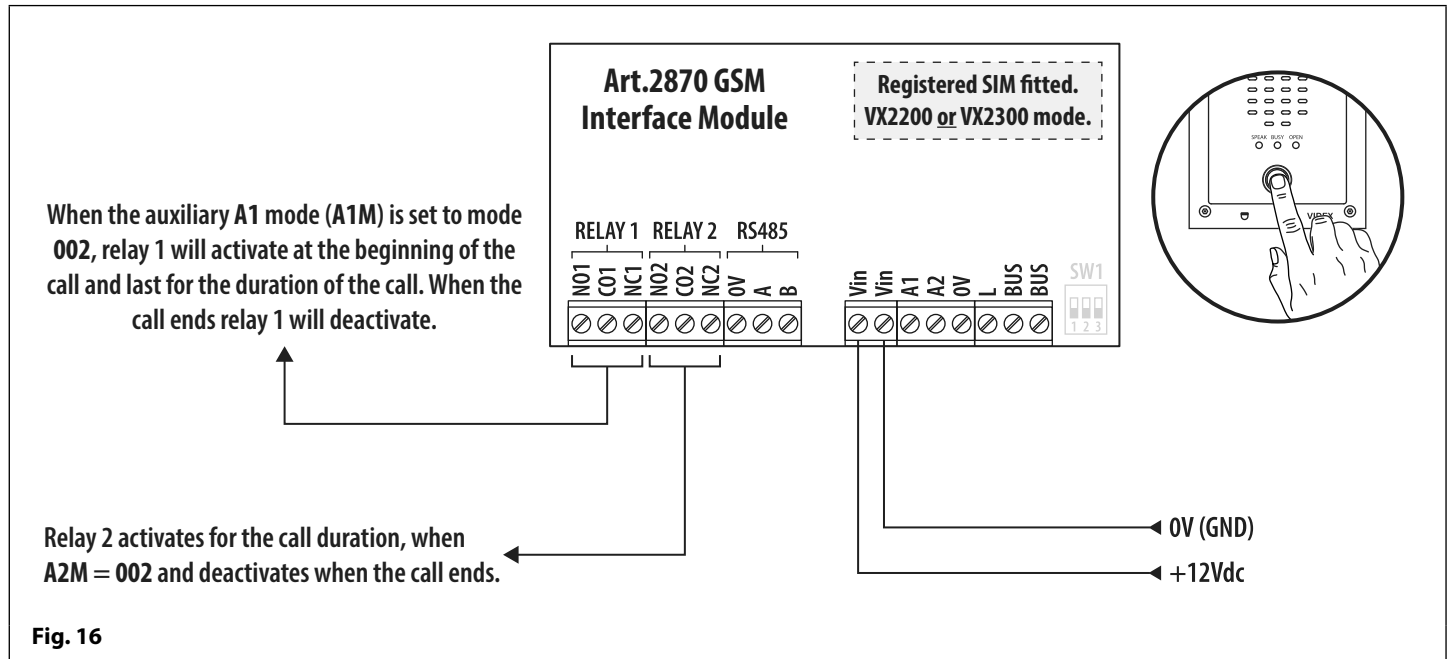
The example shown in **Fig.15** shows the connection for auxiliary A1 when the A1M mode is set to 001. When auxiliary input A1 is triggered by a switched 0V signal it will send the SMS message stored for S1S to the master number (also refer to programming notes for auxiliary mode set up, storing SMS 1 and 2 messages and storing a master number). The auxiliary mode setup can also be applied for A2M and will send the respective SMS message to the master number, i.e. A2 input for S2S message. Please note the maximum length of each SMS message can be up to 32 characters.



Auxiliary Inputs & Relay Outputs

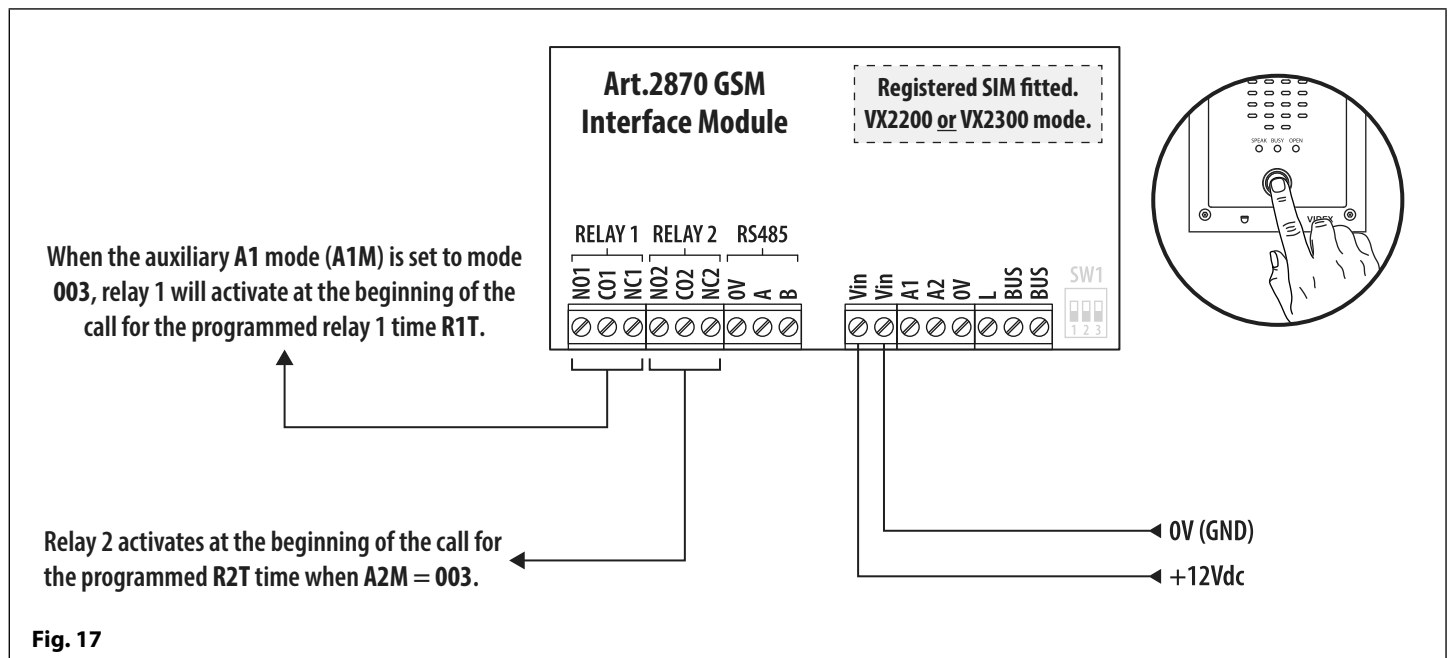
AUXILIARY A1M AND A2M SET TO MODE 002 (TRIGGERS RESPECTIVE RELAY FOR DURATION OF CALL)

The example shown in **Fig.16** 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 and then deactivate when the call ends (also refer to programming notes for auxiliary mode setup). The auxiliary mode setup can also be applied for **A2M** and will activate relay 2 for the duration of the call and deactivate the relay when the call ends.



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

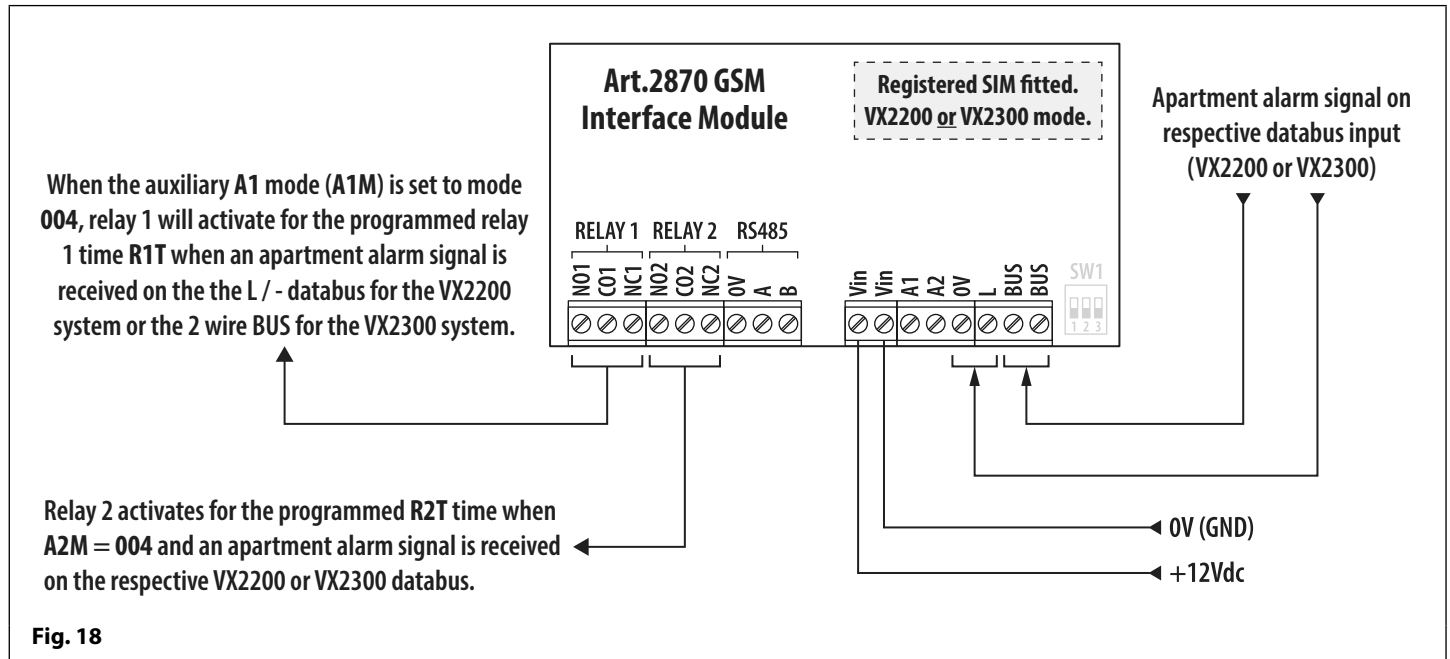
The example shown in **Fig.17** shows the connection for relay 1 when the **A1M** mode is set to **003**. Relay 1 will activate at the beginning of the call for the programmed relay 1 time **R1T** (also refer to programming notes for auxiliary mode setup and setting relay 1 and 2 times). The auxiliary mode setup can also be applied for **A2M** and will activate relay 2 for the programmed relay 2 time **R2T**.



Auxiliary Inputs & Relay Outputs

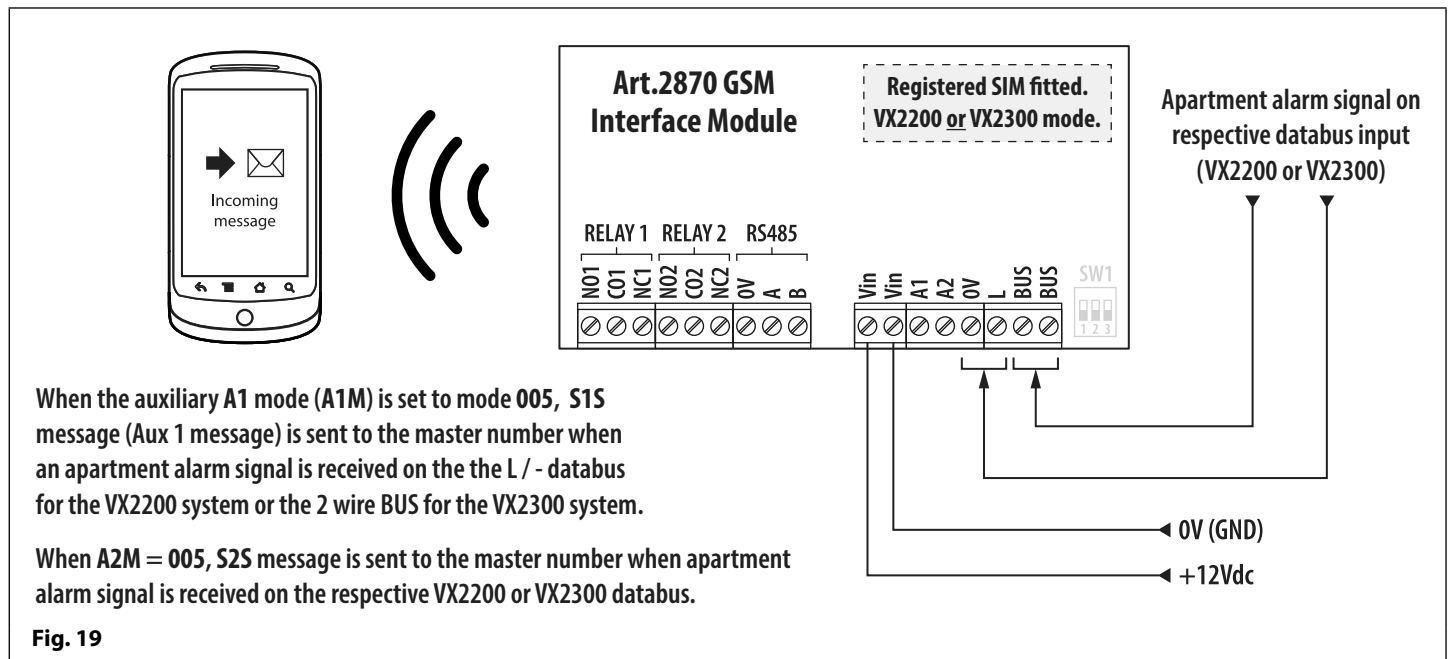
AUXILIARY A1M AND A2M SET TO MODE 004 (TRIGGERS RESPECTIVE RELAY BY APARTMENT ALARM)

The example shown in **Fig.18** shows the connections for relay 1 and the databus connections when the **A1M** mode is set to **004**. When the **Art.2870** interface receives an apartment alarm signal on the databus (VX2200 or VX2300 databus, depending on which system operating mode the GSM interface is set to) 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 and 2 times). The auxiliary mode setup can also be applied for **A2M** and will activate relay 2 for the programmed relay 2 time **R2T**.



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

The example shown in **Fig.19** shows the connections for relay 1 and the databus connections when the **A1M** mode is set to **005**. When the **Art.2870** interface receives an apartment alarm signal on the databus (VX2200 or VX2300 databus, depending on which system operating mode the GSM interface is set to) it will send the SMS message stored for **S1S** (aux 1 message) to the master number (also refer to programming notes for auxiliary mode setup, storing SMS 1 and 2 messages and storing a master number). The auxiliary mode setup can also be applied for **A2M** and will send the SMS message stored for **S2S** (aux 2 message) to the master number. Please note the maximum length of each SMS message can be up to 32 characters.



Auxiliary Inputs & Relay Outputs

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

The example shown in **Fig.20** 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 or 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.2870** GSM interface 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 setup and setting relay 1 and 2 times). The auxiliary mode setup can also be applied for **A2M** and will activate relay 2 for the programmed relay 2 time **R2T** for door **ID.2**. For setting up the intercom panel's relay time and door ID refer to the relevant installation instructions that are provided with the intercom panel.

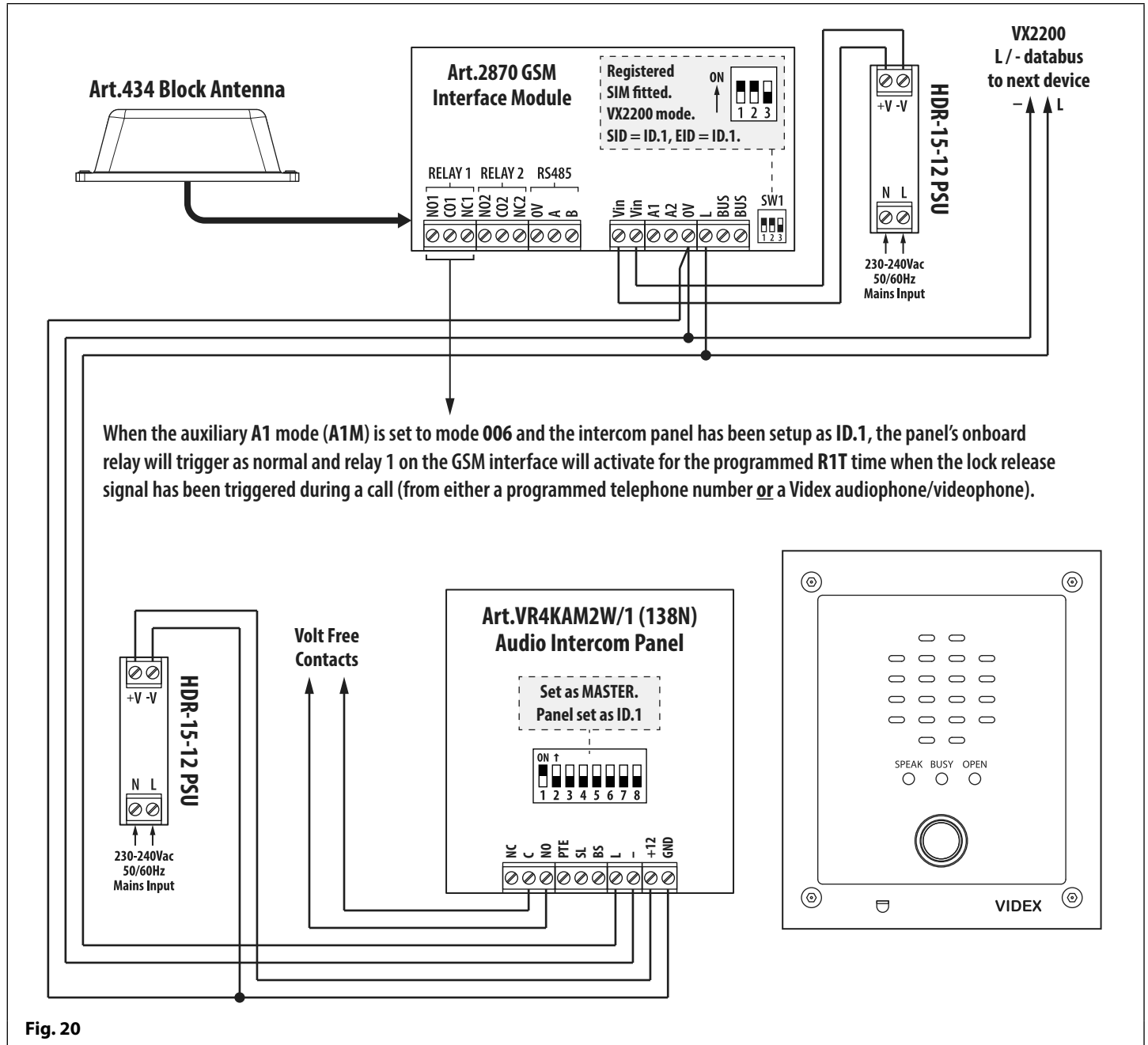


Fig. 20

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

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

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

USB & RS485 Connection to a PC

CONNECTIONS TO A PC

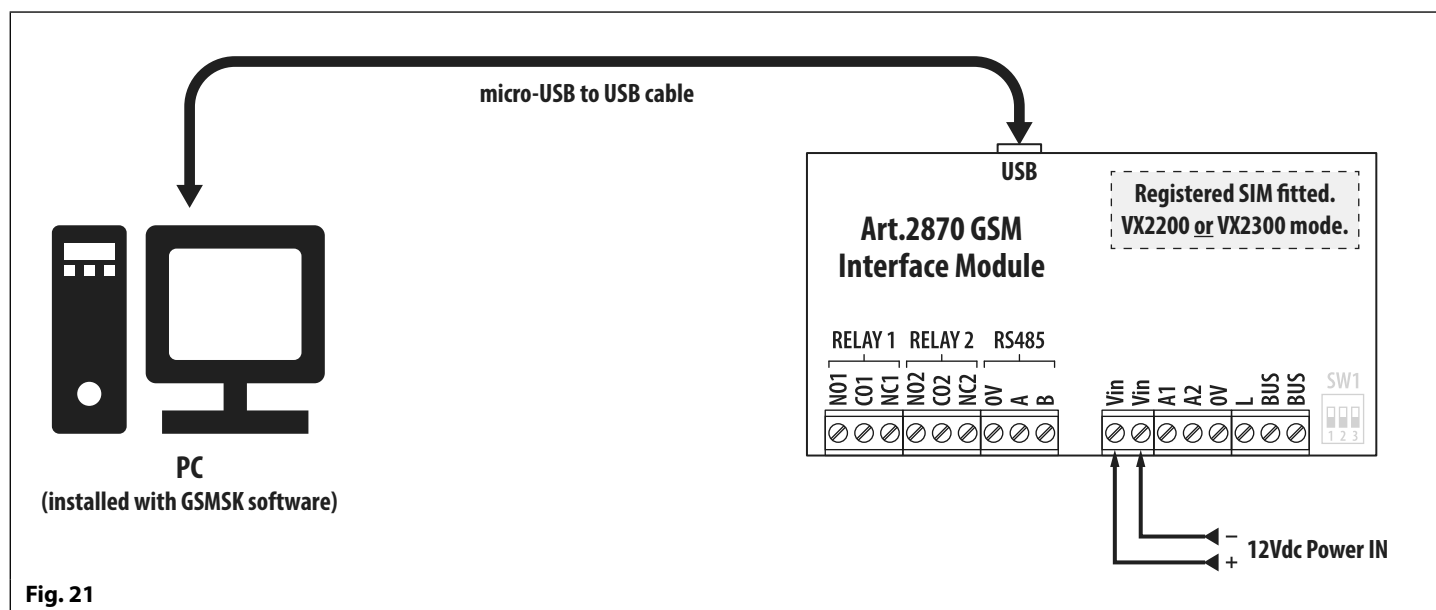
The Art.2870 GSM interface also includes two options for connecting directly to a PC: via a USB connection or via an RS485 connection. Both methods of connection are to allow for ease of programming and monitoring using the GSMSK PC software.

IMPORTANT: WHEN A USB CONNECTION IS PLUGGED INTO THE 2870 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_V2-3 (or later version).

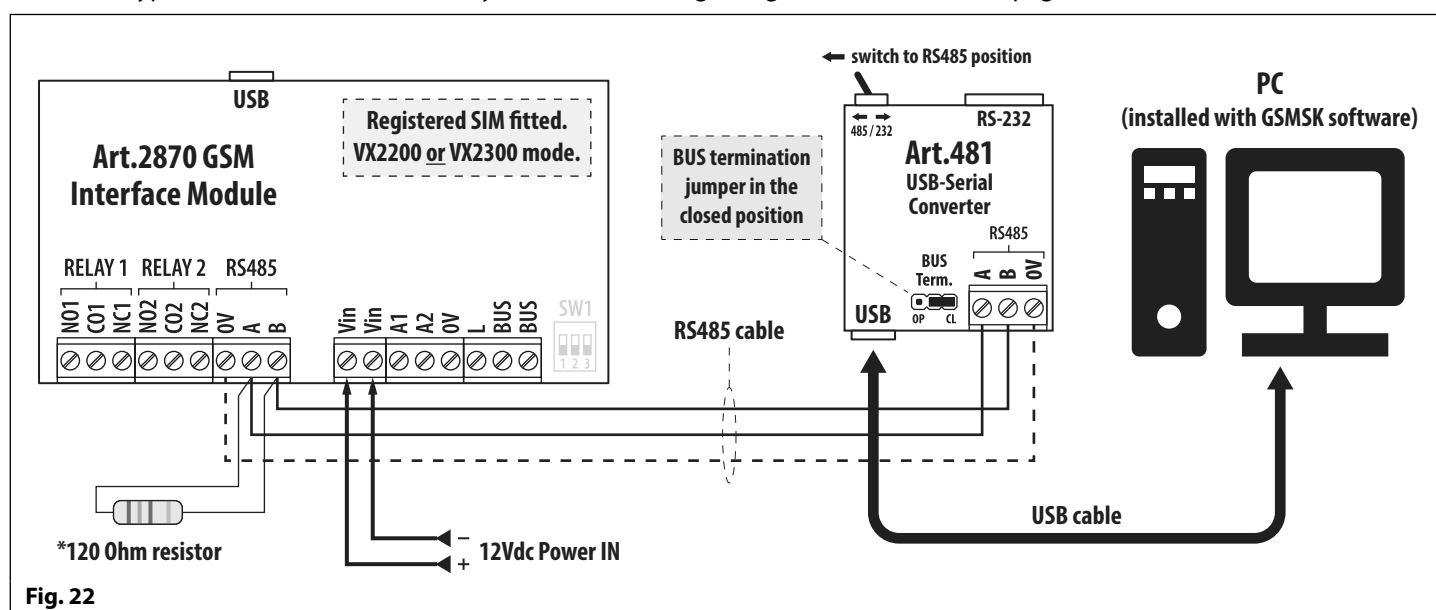
OPTION 1: USB CONNECTION

The GSM can be connected using a standard micro-USB to USB cable as shown in Fig.21. This method of connection is primarily used for programming and setup of the GSM interface only.



OPTION 2: RS485 CONNECTION

The GSM interface can also be connected using an RS485 bus connection via an RS485 to USB converter (Art.481) as shown in Fig.22 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 interface can only be connected as a 'one-to-one' bus connection to the PC, another GSM module **cannot** be connected on the same RS485 bus to the PC. The RS485 connection can also be used for networking with Art.4850R proximity readers, Art.4903 keypads and Art.2813 remote relays, further details regarding this can be found on pages 23 and 24.



* 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.2870 GSM interface 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.23** (in the example the **Art.2870** has been setup in VX2200 operating mode). 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 valid 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 **GSM SK** PC software including programming 'over the air' feature (refer to the manual **GSM SK_66251720-EN_V2-3** or later).

IMPORTANT NOTE: The **Art.2870** 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.2870**) 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.

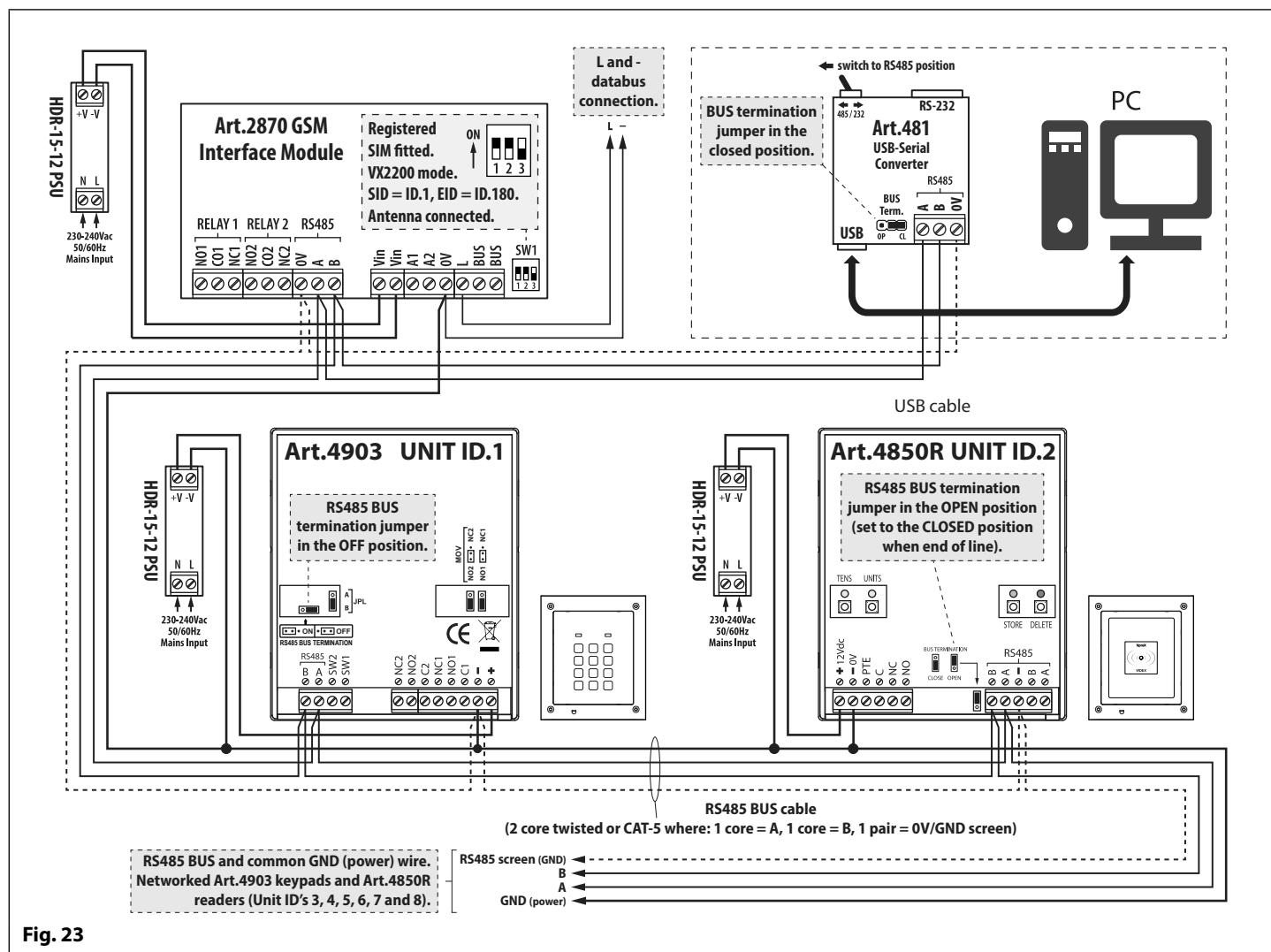


Fig. 23

Connection to a Reader, Keypad or Relay

RS485 BUS CONNECTION TO AN ART.2813 REMOTE RELAY

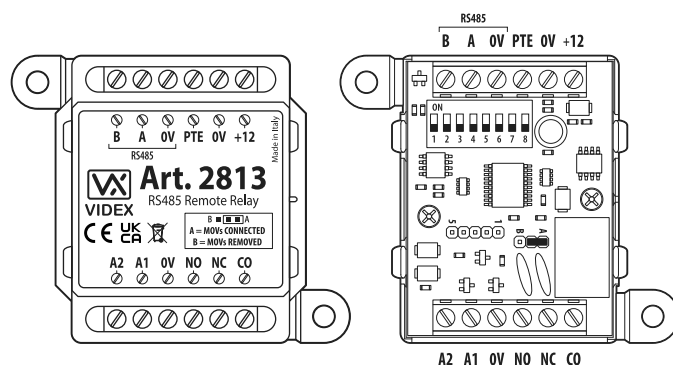
Like both the Art.4850R reader and the Art.4903 keypad the Art.2813 remote relay, Fig.24 can also be connected to the Art.2870 GSM interface via the RS485 bus terminals, Fig.25.

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_V1-1 (or later).

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 further on) or using the GSM mobile apps (see notes on the GSM mobile apps further on).



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

Fig. 24

NOTES:

All power supplies require 230Vac (50/60Hz) mains input.

Art.2813 UNIT ID.2	
Relay time set to 1 second on 1st power up	ON 1 2 3 4 5 6 7 8
Aux A1 time set to 5 secs. on 2nd power up	ON 1 2 3 4 5 6 7 8
Aux A2 time set to 0, latch mode on 3rd power up	ON 1 2 3 4 5 6 7 8
Unit ID.2 setup on 4th (last) power up	ON 1 2 3 4 5 6 7 8
Relay MOV in B position	ON 1 2 3 4 5 6 7 8

A 120Ω resistor is only required across terminals A/B for long distances up to 500m and only fitted to the last Art.2813 in line. The 120Ω resistor will not be required over shorter distances (less than 100m).

2870 GSM = ID.1
Onboard relays R1 and R2 set to 5 seconds. A 120Ω resistor will not be required across terminals A/B over short distances (less than 100m).

2 wire BUS connections to Door Entry panel and audiophones or videophones

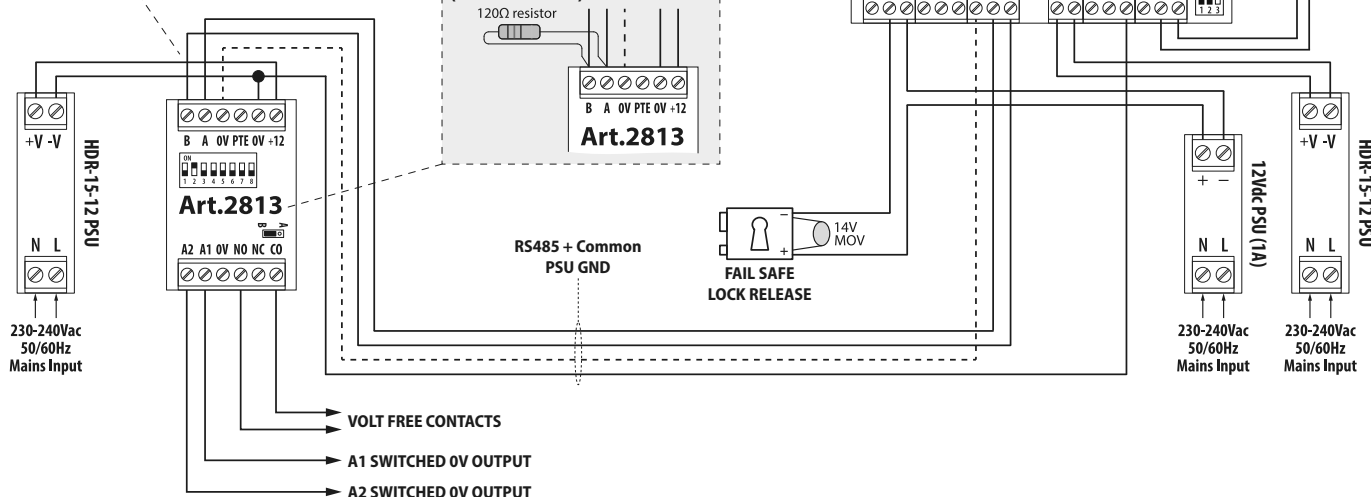


Fig. 25

SECURED BY DESIGN CONFIGURATION

If the remote relay is setup with the same device ID as the Art.2870 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

VX2200 CABLE REQUIREMENTS

For VX2200 system devices refer to the following tables.

Refer to the table below for the power supply output connections to the **Art.2870** GSM interface and the lock release connections.

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

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.

It is recommended that a twisted pair cable is used for the L and - databus connections and for balanced video signal connections **V1** and **V2** (for video systems).

VX2200 System Cable Requirements				
Connections	50m	100m	200m	300m
L	0.4mm ²	0.5mm ²	0.75mm ²	1.0mm ²
-	0.4mm ²	0.5mm ²	0.75mm ²	1.0mm ²
V1 ^a	0.35mm ²	0.5mm ²	0.75mm ²	1.0mm ²
V2 ^a	0.35mm ²	0.5mm ²	0.75mm ²	1.0mm ²
+20V ^a	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²
GNDV ^a	0.5mm ²	0.75mm ²	1.0mm ²	1.5mm ²
+12V	0.4mm ²	0.75mm ²	1.0mm ²	1.5mm ²
GND	0.4mm ²	0.75mm ²	1.0mm ²	1.5mm ²
All others ^b	0.25mm ²	0.35mm ²	0.5mm ²	0.75mm ²

^a - These connections are only required on video systems.

^b - 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.

IMPORTANT NOTE: ONLY BARE COPPER (BC) CABLE SHOULD BE USED, SOLID OR STRANDED IS ACCEPTABLE. PLEASE BE AWARE THAT WHEN SELECTING CABLE THE FOLLOWING TYPES ARE NOT RECOMMENDED BY VIDEX: COPPER COATED STEEL (CCS) AND COPPER CLAD ALUMINIUM (CCA).

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.

VX2300 CABLE REQUIREMENTS

The VX2300 digital system can use several types of cable, however depending on their specification will allow different distances up to a maximum of 400m. For lock release wiring on VX2300 intercom panels refer to the lock release table above in the **VX2200 cable requirements** section.

IMPORTANT NOTE: FOR ALL VX2300 SYSTEM DEVICES WE DO NOT RECOMMEND THE USE OF SHIELDED CABLES BECAUSE OF THE HIGH EDDY CAPACITANCE. IT IS ALSO NOT ADVISABLE TO DOUBLE UP ON CABLE CORES AS THIS WILL ALSO INCREASE THE CAPACITANCE.

The following table specifies the values of resistance, capacitance and maximum distances achievable for several cable types (please note that the resistance and capacitance values shown in the table refers to a 100m of cable).

VX2300 System Cable Requirements				
Cable Type ^c	Wires CSA (mm ²)	Resistance (Ohm) per 100m	Capacitance (nF) per 100m	Maximum distance (m) ^d
Videx CM2	0.50	3.2	8	200m
CAT5 UTP/CW1308	0.22	8	4.9	70m
Std telephone cable	0.28	6.5	5.5	100m
Two wire	0.8/1	2	6.5	70m

^c - It is important that the video intercom system cables do not run with mains or any other high voltage power cables. Noise from such cables (e.g. electromagnetic interference) may cause noise on audio/video signals and loss of functionality. In cases where this advise cannot be followed or when existing cables are to be used it will be necessary to carry out tests to assess the quality and functionality of the installation.

General Directions for Installation

^d - The maximum distance represents the distance from power supply i.e. the cable length between the outdoor intercom panel and the power supply or between the power supply and the audio and/or videophone.

There are two important characteristics to consider when selecting cable, the resistance and capacitance. The resistance of the cable from the power supply to the end point **must be less than 10 Ohms** and can be calculated from point to point. The capacitance of the cable **must not exceed 40nF** and is an accumulation of all lengths and branches of the cable.

For example Videx CM2 cable can be used for a maximum distance of 200m from outdoor intercom panel to power supply and then another 200m from power supply to the audio and/or videophone (400m in total from point to point), however this distance may be reduced if the maximum capacitance is reached first.

When using VX2300 block exchange devices, **Art.2306**, it is possible to exceed the limit of 400m. The **Art.2306** breaks the overall system down into smaller systems or blocks, where each block can then achieve the 400m.

RS485 CONNECTIONS

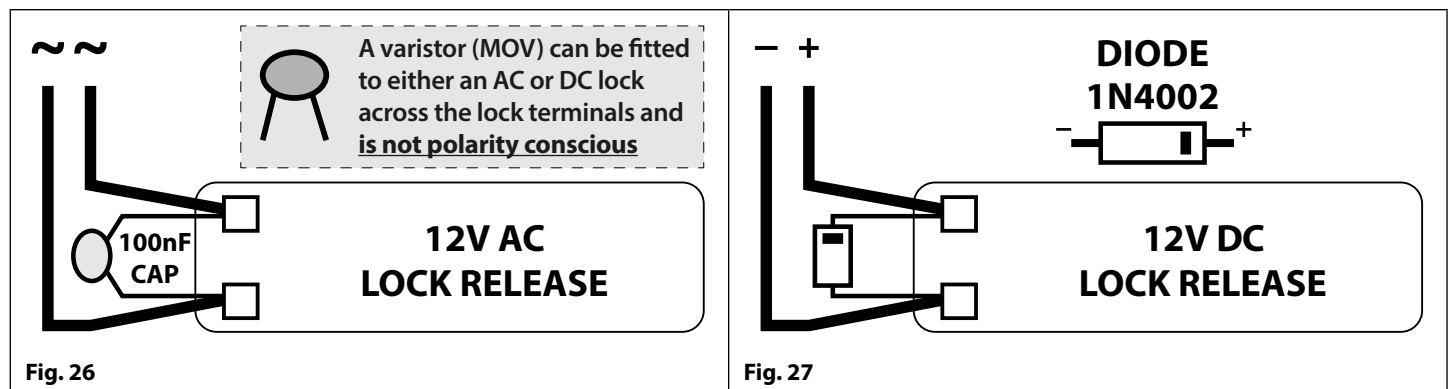
A CAT5 cable is acceptable where 1 pair is used for the **0V/GND** connection and a second pair is split between the **A** and **B** connections (i.e. 1 core of the pair is used for the **A** terminal, 1 core of the pair is used for the **B** terminal). The total overall distance between the first RS485 device in line, an **Art.481** or **Art.2870** GSM interface, 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.2870** GSM interface or **Art.2813** relay a 120 Ohm resistor should be fitted across the **A** and **B** bus terminal connections as described and shown in **Fig.25**, page 24). If the overall RS485 bus distance is less than 100m or so then a 120 Ohm resistor is not required.

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.26**. 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.27**.



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.26** 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 17.

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:

General Directions for Installation

- 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.28**) 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.

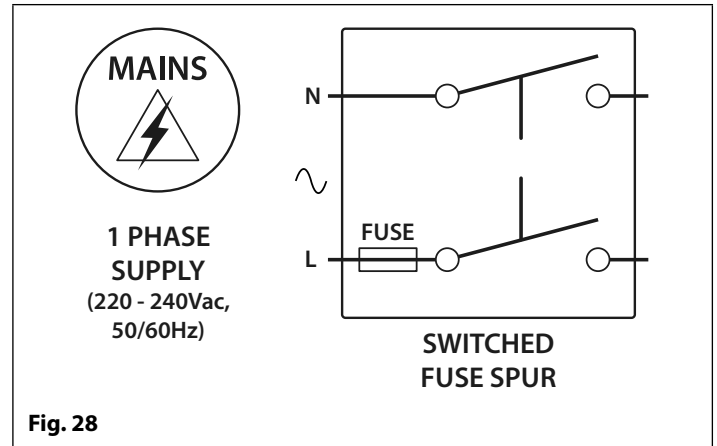
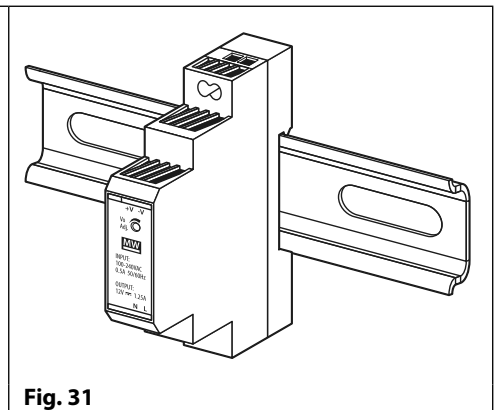
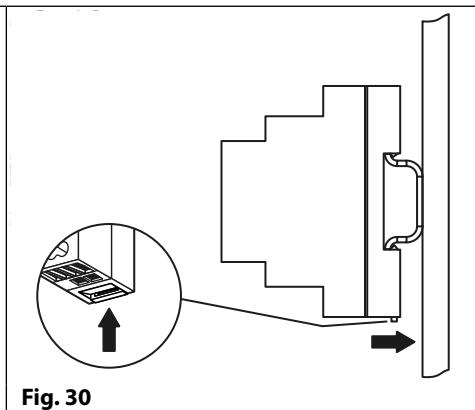
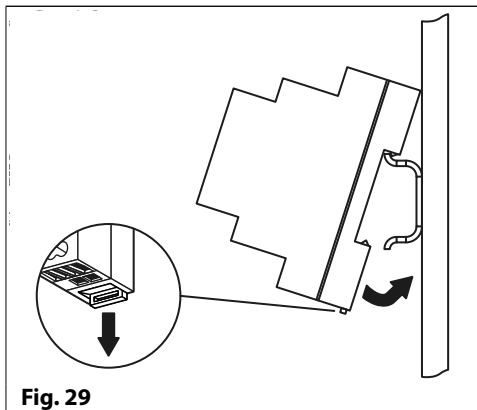


Fig. 28

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.29**, **Fig.30** and **Fig.31**).
- 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 - 17).
- Check the connections and secure the wires into the terminals ensuring that the low voltage (signal) cables are routed separately from the high voltage (mains) cables.
- If applicable replace the terminal covers and fix them back into place using the relevant screws.
- When all connections are made restore the mains supply.



MOUNTING THE ART.2870 GSM INTERFACE

The Art.2870 GSM interface can also be mounted following the same instructions for mounting a DIN type power supply (described above following **Fig.29**, **Fig.30** and **Fig.31**) and then making the necessary terminal connections shown in the wiring diagrams on pages 12 -17 (depending on the system setup and configuration).

IMPORTANT NOTE: WHEN FITTING THE SIM CARD INTO THE GSM INTERFACE MODULE IT MUST BE FITTED TO THE DIN RAIL FOLLOWING THE SAME MOUNTING INSTRUCTIONS FOR FITTING THE POWER SUPPLY DESCRIBED ABOVE (ALSO REFER TO FIG.29, FIG.30 AND FIG.31). 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 FOLLOWING PAGE.

Fitting the SIM & Connecting Power

FITTING THE SIM CARD AND CONNECTING THE POWER TO THE ART.2870 GSM INTERFACE

After installing the power supply, antenna, lock output and any other devices required (following the wiring diagrams on pages 12 - 17) 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.

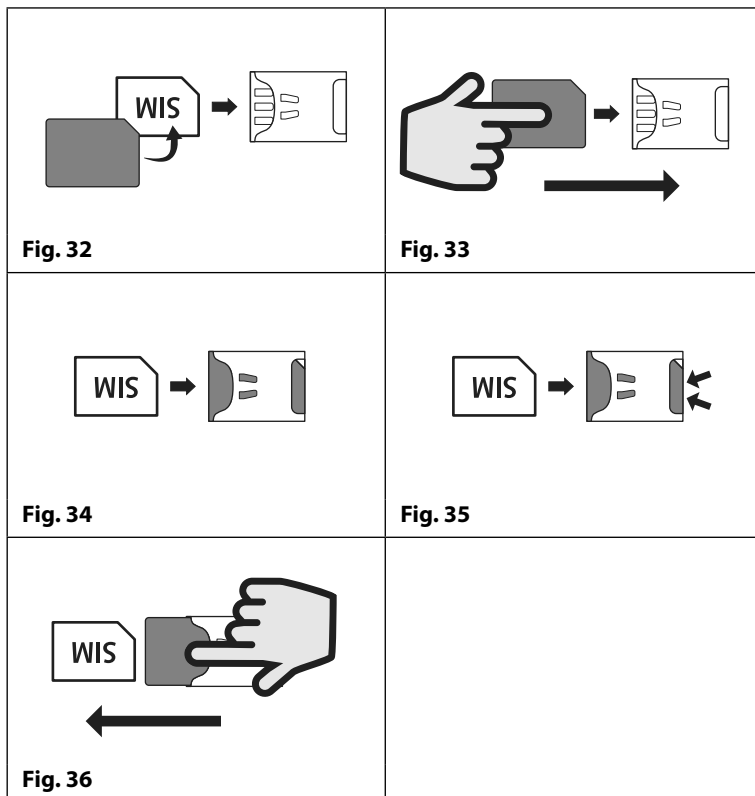
FITTING AND REMOVING THE SIM

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.32**.
2. Carefully, using your index finger, guide the nano SIM right, see **Fig.33**, into the SIM holder, see **Fig.34**.
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:

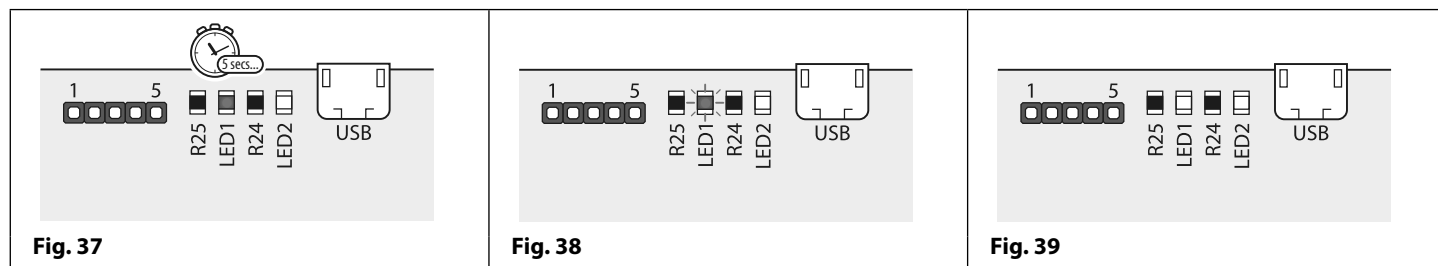
1. Before removing the nano SIM disconnect the 12Vdc power to the GSM interface module.
2. To remove the SIM card carefully use the end of a small flat head terminal driver (indicated with the two arrows on the right side of the SIM holder where the edge of the SIM can be seen, **Fig.35**) and gently 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.36**.



POWER UP INITIALISATION SEQUENCE FOR THE ART.2870 GSM INTERFACE

The **Art.2870** GSM interface 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 set the GSM interface to the required system operating mode: VX2200 mode **or** VX2300 mode, following the **SW1** dip-switch settings described on page 10 and following **Fig.4**, **Fig.5**, **Fig.6** and **Fig.7** as is necessary.
2. Next check all the connections have been made correctly and then power up the system.
3. The red LED (LED1) will switch **ON** for approximately 5 seconds, as shown in **Fig.37**.
4. After this the red LED (LED1) will continue to flash while it registers with the chosen network, as shown in **Fig.38**.
5. After a further delay the red LED (LED1) will stop flashing, as shown in **Fig.39**, to indicate that the GSM interface has registered with the network and is ready to begin programming.



Reset Procedure

RESETTING THE ART.2870 GSM INTERFACE MODULE TO FACTORY DEFAULTS

There are two reset options for the GSM interface. The first will reset the master code only (any programming will be retained in the GSM interface module) and the second will reset everything and clear all stored telephone numbers, access codes, proximity fobs/cards and reset all settings back to factory default.

RESETTING THE MASTER CODE TO 1111 (4x1)

1. Ensure the power is switched **OFF** to the GSM interface.
2. Short out the auxiliary terminal **A1** to the **0V** terminal with a piece of link wire, see **Fig.40**.
3. Switch the power back **ON** to the GSM interface, 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.41**.
5. After the 60 seconds is up the red LED (LED1) will stop flashing, remove the short between **A1** and the **0V** terminal. The master code has been reset back to **1111** (4x1) and the GSM interface is ready for programming.

IMPORTANT NOTE: When a master code reset is performed on the GSM interface 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 interface. No attempt should be made to remove the short before the red LED (LED1) stops flashing otherwise the master code reset will not work.

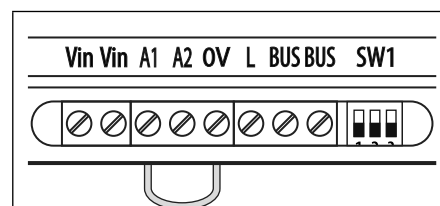


Fig. 40

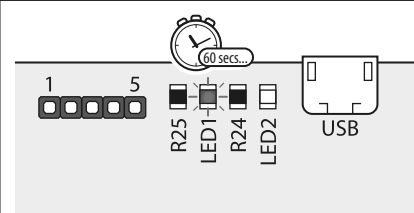


Fig. 41

FULL SYSTEM RESET

1. Ensure the power is switched **OFF** to the GSM interface.
2. Short out the auxiliary terminals **A1** and **A2** to the **0V** terminal with a piece of link wire, see **Fig.42**.
3. Switch the power back **ON** to the GSM interface, 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.43**.
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.44**.
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.45**.
7. The red LED (LED1) will then start to flash again for approximately 16 - 18 seconds to indicate that the GSM interface is resetting back to the factory default (**Fig.43**).
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 interface has reset.
9. After the reset remove the shorts between the **A1**, **A2** and the **0V** terminals. The GSM interface is ready for programming.

IMPORTANT NOTE: When a full system reset is performed on the GSM interface 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 interface so it is advisable to save or record the information beforehand.

If a high volume of information is stored in the GSM interface 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_V2-3 (or later).

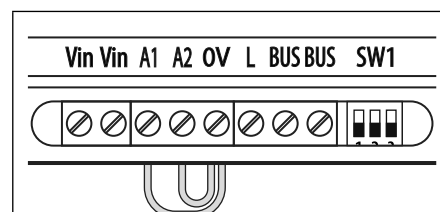


Fig. 42

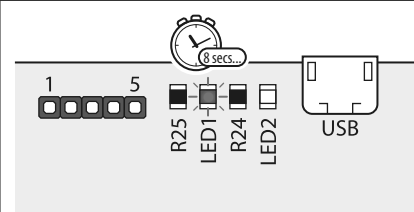


Fig. 43

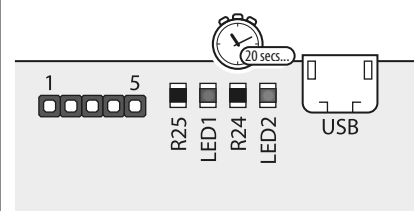


Fig. 44

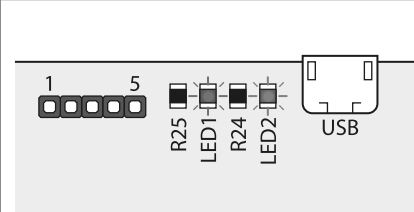


Fig. 45

Programming the GSM Module

PROGRAMMING THE GSM MODULE

Programming the GSM interface can be carried out by one of the following methods: i) sending text (SMS) messages, ii) by using the **GSM SK** PC software (ver 4.2.0.0 or later), also refer to the latest programming manual **GSM SK_66251720-EN_V2-3** (or later), iii) by using the GSM mobile apps: **Videx SMS Wizard** (for administrators) and the **Videx SMS Wizard PRO** (for installers and engineers), iv) or by using the **GSM cloud** management platform (via cloud.videxservices.uk).

IMPORTANT NOTE: When you are required to use " in a text message it is 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 interface.

PROGRAMMING BY TEXT MESSAGE

Programming by text message is a simple way to customise the settings of the GSM interface module and add or delete telephone numbers. If you have several buttons or telephone numbers to enter you may find programming easier with the **GSM SK** PC software. It is important to note that the following programming texts can be used when the GSM interface is setup in either system operating mode: VX2200 or VX2300 unless stated otherwise. Simply send texts in the following format shown below to the telephone number of the SIM within the GSM interface 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 or command 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 ID	n/a	33 - 34
Store divert 1 telephone no.	STD	1111STDnnn"01912241559"?	for VX2200 mode	n/a	33 - 34
Store divert 2 telephone no.	STE	1111STEnnn"01912243678"?	nnn = 001 - 100 ID	n/a	33 - 34
Store divert 3 telephone no.	STF	1111STFnnn"01912245326"?	for VX2300 mode	n/a	33 - 34
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 ID for VX2200 mode nnn = 001 - 100 ID for VX2300 mode pn = primary no. d1 = divert 1 no. d2 = divert 2 no. d3 = divert 3 no.	n/a	34
Store dial to open no. (relay 1)	S1R	1111S1Rnnn"07771234567"	nnn = 000 - 999	n/a	34 - 35
Store dial to open no. (relay 2)	S2R	1111S2Rnnn"07892456789"	nnn = 000 - 999	n/a	34 - 35
Store up to 5 dial to open no's (DTO) for relay 1 or 2 in a single text message to the next available location (relay 1 = 1000 DTO's) (relay 2 = 1000 DTO's)	S1R S2R or	1111S1R"n1","n2","n3","n4","n5"? or 1111S2R"n1","n2","n3","n4","n5"?	nnn = optional from 000 - 999 for relay 1 or relay 2 S1R = relay 1 S2R = relay 2 n1 = 1st DTO n2 = 2nd DTO n3 = 3rd DTO n4 = 4th DTO n5 = 5th DTO	n/a	35 - 36
Using access levels with dial to open numbers for both relays (1 and 2)	S1R S2R	1111S1R"n1"An,"n2"An,"n3"An,"n4"An, "n5"An? or 1111S2R"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	36 - 37
Delete a dial to open no. without knowing it's location	DET	1111DET"01912243174"	n/a	n/a	37
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	37

Programming the GSM Module

Enable isolation card support (VX2200 mode only)	ENI	1111ENInnn?	nnn = 000 or 001	000 (disabled)	37
Delay before call time	DCT	1111DCTiiinnn	iii = phone ID 1 - 180 for VX2200 mode iii = phone ID 1 - 100 for VX2300 mode nnn = 000 - 031 secs	000 (disabled)	38
Set user's phone ID as a master or slave extension (VX2300 mode only)	EXT	1111EXTiiinnn	iii = phone ID 1 - 100 nnn = 000 slave or 001 master	000 (slave)	38
Set call time	SPT	1111SPTnnn	nnn = 000 - 255	040 (40s)	38
Set relay 1 time	R1T	1111R1Tnnn	nnn = 000 - 255	005 (5s)	38
Set relay 2 time	R2T	1111R2Tnnn	nnn = 000 - 255	005 (5s)	38
Set auxiliary 1 mode	A1M	1111A1Mnnn	nnn = 000 - 006	000	38 - 39
Set auxiliary 2 mode	A2M	1111A2Mnnn	nnn = 000 - 006	000	38 - 39
Keep connection facility	NOD	1111NODnnn	nnn = 000 - 099	000 (disabled)	39
Divert to next no. time	DIT	1111DITnnn	nnn = 001 - 255	15 (15s)	39
Check GSM signal strength	SIG	1111SIG?	n/a	n/a	39
Confirm the network service provider's name	SPN	1111SPN?	n/a	n/a	39
Check software version	VER	1111VER?	n/a	n/a	40
Store SMS message for A1	S1S	1111S1S"AuxTriggered"	n/a	AuxTriggered	40
Store SMS message for A2	S2S	1111S2S"AuxTriggered"	n/a	AuxTriggered	40
Change 4 digit code	CDE	1111CDEnnnn?	nnnn = any 4 digits	1111	40
Trigger the relay 1	RL1	1111RL1	n/a	n/a	40
Trigger the relay 2	RL2	1111RL2	n/a	n/a	40
Check the state of relay 1 output	R1S	1111R1S?	n/a	n/a	40
Check the state of relay 2 output	R2S	1111R2S?	n/a	n/a	40
Store balance check dial string	SDL	1111SDL"*#1345#"	n/a	n/a	40
Check credit balance	BAL	1111BAL?	n/a	n/a	40 - 41
Store master telephone no.	STM	1111STM"master no"?	n/a	n/a	41
Forward SMS messages to the master telephone no.	FSM	1111FSMnnn?	nnn = 000 or 001	000 (disabled)	41
Store apartment call timeband(s) for phone ID's to be active	TBA	1111TBAn"HHMMHHMM",days?	n = 0 - 9 timeband HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD, WE and Ho	timeband 0 = 00002359, AD (all days)	41 - 42
Assign apartment call timeband 0 - 9 to a specific phone ID	STB	1111STBiiin?	iii = phone ID 1 - 180 for VX2200 mode iii = phone ID 1 - 100 for VX2300 mode n = 0 - 9 timeband	timeband 0 = 00002359, AD (all days)	42
Store access control timeband(s) for DTO numbers, also for access codes and proximity to be active for	ATB	1111ATBn"HHMMHHMM",days?	n = 0 - 9 timeband HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD, WE and Ho	timeband 0 = 00002359, AD (all days)	42 - 43
Store access levels for DTO numbers, also for access codes and proximity to be active for	ACC	1111ACCn"ttttttttt"rrrrrrr"?	n = 0 - 9 access level each t = 1 or 0 each r = 1 or 0	n/a	43 - 44

Programming the GSM Module

Free access timebands including output setup (RLY1 or RLY2) 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, WE and Ho m = L or M o = R1, R2 or R3	n/a	44 - 45
Clear all free access timebands	FRD	1111FRD?	n/a	n/a	45
Lock speech call volume level	LSP	1111LSPnnn?	nnn = 000 or 001	000 (disabled)	45
Check/Set date & time	CLK	1111CLK"yy/mm/dd,hh:mm"?	yy/mm/dd,hh:mm	n/a	45
Send tone after answer (But 1)	DTP	1111DTPn	n = 0 - 9 or X	X (disabled)	46
Send tone after answer (Div 1)	DTD	1111DTDn	n = 0 - 9 or X	X (disabled)	46
Send DTMF tone delay	DTT	1111DTTnnn	nnn = 001 - 012	003	46
Enable dial 0 on answer function	EDZ	1111EDZnnn	nnn = 000 or 001	000 (disabled)	46
Enable # (hash) function	ED#	1111ED#nnn	nnn = 000 or 001	000 (disabled)	46
Find a dial to open no. (DTO)	FDT	1111FDT"tele"?	min. last 4 digits	n/a	46 - 47
First phone ID to respond to	SID	1111SIDnnn	nnn = 001 - 180 ID for VX2200 mode	001 for both modes	47
Last phone ID to respond to	EID	1111EIDnnn	nnn = 001 - 100 ID for VX2300 mode	180 for VX2200 100 for VX2300	47
End on last divert	EOD	1111EODnnn	nnn = 000 or 001	000 (disabled)	48
Shutdown and Restart	RBT	1111RBT	n/a	n/a	48
Obtain the GSM's IMEI number	IME	1111IME?	n/a	n/a	48
Unlatch prevention feature	LLA	1111LLAnnn?	nnn = 000 or 001	000 (disabled)	48
Network connection indication	CON	1111CON?	n/a	n/a	48
Setup the GSM interface for data communication	APN	1111APN"apn","username","password"?	n/a	n/a	49
Store a username & password for each GSM for online events	PAS	1111PAS"username","password"?	n/a	n/a	49
Enable online events for the GSM module	ENE	1111ENEnnn?	nnn = 000 or 001	000 (disabled)	50
Setup port forwarding for connection to a Server	SER	1111SER"IP",PORT?	n/a	n/a	50
Source of time/date updates	NTZ	1111NTZnnn?	nnn = 000, 001 or 002	001	50
UTC Time Zone for countries ahead of UTC	TZ+	1111TZ+nnn?	nnn = 000 - 048	000	51
UTC Time Zone for countries behind UTC	TZ-	1111TZ-nnn?	nnn = 000 - 048	000	51
Daylight savings time adjustment	DST	1111DSTnnn?	nnn = 000 or 001	001 (enabled)	51
Proximity number of bytes to check	PBY	1111PBYnnn?	nnn = 002, 003 or 004	002	52
Store a fob/card in a known location <u>or</u> the next available location (using site code, user code <u>or</u> fob/card ID) also option to assign access level (An)	FOB	1111FOBnnnn"sc","uc" <u>or</u> 1111FOBnnnn"0","uc" <u>or</u> 1111FOBnnnn"cid" <u>or</u> 1111FOBnnnn"sc","uc"An <u>or</u> 1111FOBnnnn"0","uc"An <u>or</u> 1111FOBnnnn"cid"An	nnnn = 0000-1999, sc = site code, uc = user code, cid = fob/card ID. nnnn - optional, if omitted will find next free location. An = A0 - A9.	An default = all access unless specified	52 - 54
Find a fob or card number	FDF	1111FDF"uc"? <u>or</u> 1111FDF"cid"?	n/a	n/a	54

Programming the GSM Module

Delete a fob or card without knowing its location using the user code or fob/card ID	DEF	1111DEF"uc" or 1111DEF"cid"?	n/a	n/a	54 - 55
Store an access code in a known location or the next available location and activate relays 1 and/or 2 respectively, also option to include an access level	PIN	1111PINnnn"code"12 or 1111PINnnn"code"12? or 1111PIN"code"12 or 1111PIN"code"12? or 1111PINnnn"code"An or 1111PINnnn"code"An? or 1111PIN"code"An or 1111PIN"code"An?	nnn = 000 - 399 or nnn - optional, if omitted will find next free location. An = A0 - A9 code = 4 - 8 digit access code, 1 & 2 = relay to activate	An default = all access unless specified, relay setup = default relay 1 unless specified	55 - 56
Store a temporary access code in the next available location, activate relays 1 and/or 2 respectively (up to 32 max.)	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	56 - 57
Find an access code	FDC	1111FDC"code"?	code = 4 - 8 digit access code	n/a	57
Delete an access code (without knowing it's location)	DEC	1111DEC"code"?	code = 4 - 8 digit access code	n/a	57
Delete all temporary codes	DEP	1111DEP?	n/a	n/a	58
Send global announcement feature	SGA	1111SGA"text"	text = up to 150 characters max.	n/a	58
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)	a - optional, if omitted default relay	58
Store up to 100 dates for holidays (overrides timebands for phone ID's, free access timebands, access control timebands and access levels for DTO's, proximity fobs/cards and access codes)	HOL	1111HOLnnn"dd/mm/yy"?	nnn = 000 - 099 dd/mm/yy = date	n/a	58
Enable GSM to work with concierge	ENC	1111ENCnnn - (VX2300 mode only)	nnn = 000 or 001	000 (disabled)	58

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. For VX2200 mode phone ID's from **ID.1** to **ID.180** and for VX2300 mode phone ID's from **ID.1** to **ID.100** can be programmed (in the same way that Videx audiophones and videophones are programmed in the respective digital 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"tele"	Store the primary telephone number tele in phone ID position nnn .
1111STNnnn"tele"?	Store the telephone number tele 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.

Programming the GSM Module

nnn is the phone ID number between **001 - 180** for VX2200 mode and **001 - 100** for VX2300 mode. The telephone number **tele** can be a maximum of 30 digits. For example: to store the number 01912243174 for phone **ID.5** and three divert numbers (if that one is not answered or busy) of 01912241558, 07771234567 and 01912241559 respectively, the following SMS messages would be sent to the GSM module:

```
1111STN005"01912243174"
1111STD005"01912241558"
1111STE005"07771234567"
1111STF005"01912241559"
```

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

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
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"tele") 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 (VX2200 mode) <u>or</u> phone ID 001 - 100 (VX2300 mode).
1111STNnnn"pn"? (or 1111STNnnn"tele"?) 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 (VX2200 mode) <u>or</u> phone ID 001 - 100 (VX2300 mode), 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 (**d1**) were 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
VIDEX 4G
```

Remember to include **"** and **,** where appropriate.

STORING A TELEPHONE NUMBER FOR DIAL TO OPEN RELEASE FOR RELAYS 1 & 2 (S1R & S2R)

The dial to open release allows users to activate the relevant relay (1 or 2) 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 or 2) for the programmed relay time (i.e. dial to open list 1 will trigger relay 1 etc.). Up to **1000** dial to open numbers can be stored for each relay, 1 or 2, (**000 - 999**).

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

1111S1Rnnn"tele" 1111S2Rnnn"tele"	For S1R store the DTO number tele in position nnn , where nnn = 000 - 999 . For S2R store the DTO number tele in position nnn , where nnn = 000 - 999 .
--------------------------------------	--

Programming the GSM Module

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

IMPORTANT NOTE: It is important to switch OFF voicemail and automatic SMS features on the SIM card in the GSM module when using this feature. Please also note it is important that the number stored, when dialling in to release the door/gate, must have any "caller ID" or 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)

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 and S2R programming commands (for the respective relay 1 or 2) the text messages used to store and check the dial to open numbers are as follows (remembering to replace S1R with S2R when storing and checking dial to open numbers for relay 2).

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), 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), 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
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.

Programming the GSM Module

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
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 or S2R 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
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 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, FOR BOTH RELAYS 1 & 2 (S1R & S2R)

It is also possible to assign access levels (refer to ACC and ATB programming notes further on) to the dial to open numbers for both relays using the S1R and S2R programming commands respectively (also see S1R/S2R 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 DTO numbers with an access level assigned to them and store them in the next available memory locations (remembering to replace S1R with S2R when assigning an access level for relay 2).

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:

Programming the GSM Module

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

1111DET"tele"	Delete the dial to open number tele , where tele = DTO number.
1111DET"tele"?	Delete the dial to open number tele , where tele = 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
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 both 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), 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, 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 programming command would need to be sent a second time 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 both relays (i.e. it is stored on the S1R list and S2R list). It is to be deleted completely from both 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
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. The same programming command would need to be sent again to ensure that the DTO number is also deleted from the S2R 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
VIDEX 4G

ENABLE ISOLATION CARD SUPPORT FOR VX2200 MODE ONLY (ENI)

When the GSM interface is setup in VX2200 operating mode and connected onto the L/- databus that has **Art.2204N** isolation cards it is possible to enable (set to 001) the isolation card support feature on the interface. By default this feature is disabled (set to 000). The following text can be sent to the GSM interface to enable/disable this feature.

1111ENInnn	Enable or disable isolation card support for the GSM interface, where nnn = 001 (enabled) or 000 (disabled, default).
1111ENInnn?	As above and also send a confirmation text back to the sender.

Programming the GSM Module

DELAY BEFORE CALL TIME (DCT)

The delay call time is the time delay (from 0 up to 31 seconds) from when the call button is pressed on the intercom panel to when the GSM interface starts to dial the programmed telephone number. The delay call time can be assigned to a specific phone ID for both operating modes, ID.1 - ID.180 for VX2200 and ID.1 - ID.100 for VX2300 modes. This feature is particularly useful if an apartment that has Videx audio or videophones is called from the intercom panel and a delay is required (to allow the user to answer the intercom call on the audio or videophone first before calling the programmed telephone number).

In this example the phone ID addressing of the audio or videophones in the apartment is the same phone ID used to program the telephone number using the STN command. If the user answers the call from the intercom panel on the audio or videophones in the apartment, then the DCT time will not continue and the stored telephone number will not be called as the call to the apartment has already been answered. If, however, the user does not answer the call to the apartment on the audio or videophone the initial call to the apartment will continue until the end of the stored DCT time and then proceed to call the stored telephone number.

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

1111DCTiiinnn	Store the delay before call time nnn , where nnn = time in seconds (nnn = 001 - 031 seconds) and where iii = 001 - 180 for VX2200 <u>or</u> iii = 001 - 100 for VX2300.
1111DCTiiinnn?	As above and also send a confirmation text back to the sender.
1111DCTiii?	Query the current stored delay before time for. A text message will be sent back to the sender showing the stored time.

SET USER'S PHONE ID AS A MASTER OR SLAVE EXTENSION FOR VX2300 MODE ONLY (EXT)

When the GSM interface is set for VX2300 operating mode and there are no Videx audiophones and/or videophones in an apartment the phone ID must be setup as a master extension (i.e. set to 001 for master). If a user has a telephone number programmed as well as using Videx audiophones and/or videophones in an apartment then one of the Videx audiophones and/or videophones can be set as a master instead (in which case the user's phone ID can be left on the default slave setting (i.e. set to 000)).

By default each user's phone ID (ID.1 - ID.100) is set to 000 for slave. The following messages are used to set a user's phone ID as a master or slave extension and also to query the current stored setting.

1111EXTiiinnn	Enable <u>or</u> disable the master/slave setting nnn for the user's phone ID iii , where iii = user's phone ID 001 - 180 and where nnn = 000 (default, slave extension) <u>or</u> 001 (master extension).
1111EXTiiinnn?	As above and also send a confirmation text back to the sender of the stored setting.
1111EXTiii?	Query the stored master/slave setting for the user's phone ID, where iii = user's phone ID 001 - 180.

SET CALL TIME (SPT)

The call time is the maximum time in seconds that a call can last before the GSM interface automatically clears the call down. The time can be from 001 - 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 (R1T & R2T)

The relay time for each relay (1 and 2) 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 when setting/checking the time for relay 2).

1111R1Tnnn	Store the relay time nnn , where nnn = time in seconds (000 = latching <u>or</u> nnn = 001 - 255 seconds).
1111R1Tnnn?	As above and 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 MODES (A1M & A2M, MODES 000 - 006)

There are seven auxiliary modes that can be set:

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

Relay 1 or 2 will activate when auxiliary A1 or A2 is triggered for the programmed relay time R1T or R2T. Refer to **Fig.14** on page 18.

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

When auxiliary A1 or A2 is triggered send SMS1 or SMS2 message to the master number. Refer to **Fig.15** on page 18.

Programming the GSM Module

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

Relay 1 or 2 will trigger for the duration of the call when a call is made from the intercom panel. Refer to **Fig.16** on page 19.

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

Relay 1 or 2 will trigger for the programmed relay time **R1T** or **R2T** when a call is made from the intercom panel. Refer to **Fig.17** on page 19.

An apartment alarm on the databus (L and - for VX2200 or BUS/BUS for VX2300) activates the respective relay 1 or 2 for the relay time: **nnn = 004**

Relay 1 or 2 will trigger for the programmed relay time **R1T** or **R2T** when an apartment alarm is received on the databus. Refer to **Fig.18** on page 20.

An apartment alarm on the databus (L and - for VX2200 or BUS/BUS for VX2300) sends respective **SMS1** or **SMS2** message to master number: **nnn = 005**

An SMS message **SMS1** or **SMS2** will be sent to the master number when an apartment alarm is received on the databus. Refer to **Fig.19** on page 20.

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

Relay 1 or 2 will trigger for the programmed relay time **R1T** or **R2T** when the intercom panel door ID is set to door **ID.1** or **ID.2** respectively. Refer to **Fig.20** on page 21.

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

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

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.

KEEP CONNECTION FACILITY (NOD)

In the event the GSM interface is not used for long periods of time it could be possible that the network disconnects it. To prevent this from happening it is possible to program a time period, from **001 - 099** days or disabled **00** (default), to wait before the GSM interface makes a short call to refresh the connection to the network. This time period is reset after each call made on the system and will only happen if the full time period elapses without any incoming or outgoing calls.

1111NODnnn	Store the time nnn = time in days, e.g. nnn = 007, time = 7 days, (between 1 up to 99 days).
1111NODnnn?	Store the time nnn = time in days, as above, also send a confirmation text back to the sender.
1111NOD?	Query the stored time. A text message will be sent back to the sender showing the stored time.

DIVERT TIME (DIT)

The divert time is the number of seconds to wait for a call to be answered before diverting to the 2nd, 3rd and 4th number. By default the 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 texts 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 interface can be checked (also see notes on understanding the signal strength further on in this manual). It is advisable that when the GSM interface is first setup and before any other programming is carried out to check the signal strength of the GSM. If the signal strength is too low the interface 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 interface and send a confirmation text back to the sender.
-----------------	---

CONFIRM THE NETWORK SERVICE PROVIDER'S NAME (SPN)

In some instances it may be useful to know the current network service provider's name, for example when setting up the **APN** details of the GSM interface module for data communication for the "over the air" feature (refer to **APN** notes further on in this manual). The following command can be used to confirm the name of the network service provider.

1111SPN?	Check the network service provider's name and send a confirmation text back to the sender.
-----------------	--

Programming the GSM Module

CHECK SOFTWARE VERSION (VER)

It is possible to check the current version of software in the GSM interface. This may be necessary to see if an update is required for any additional features or updates for the 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 interface and send a confirmation text back to the sender.
----------	--

STORE SMS MESSAGE FOR AUXILIARY 1 OR 2 (S1S OR S2S)

The GSM interface module is able to send a customised SMS message (**S1S** or **S2S**) to the master telephone number when either of the auxiliary modes **A1M** or **A2M** is set to mode **001** or **005** (also refer to auxiliary mode set up on the 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.15** on page 18).

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.19** on page 20).

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

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

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

CHANGE THE FOUR DIGIT CODE (CDE)

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

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

TRIGGER RELAY 1 OR 2 (RL1 OR RL2)

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

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.

CHECK STATE OF THE RELAY 1 OR RELAY 2 OUTPUT RESPECTIVELY (R1S OR R2S)

If necessary it is possible to check the state of the GSM interface relay outputs (relays 1 or 2), i.e. if the relay is **OFF** or **ON** (active). The following commands can be sent to the GSM interface to check the state of the respective relay output. Replace **R1S** with **R2S** to query the state of relay 2 output.

1111R1S? or 1111R2S?	Query the state of the GSM interface's relay output, where R1S = relay 1 and R2S = relay 2, where ON = relay active and OFF = relay OFF, also send a confirmation text back to sender.
-------------------------	--

STORE BALANCE CHECK DIAL STRING (SDL)

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

1111SDL"*#1345#"	Store the balance check string for a Vodafone pay as you go.
1111SDL"*#10#"	Store the balance check string for an O₂ 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.
----------	---

Programming the GSM Module

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

- A Pay As You Go SIM card from a provider that offers this service (**Vodafone, O₂**) must be used.
- The correct balance check string must be stored using the **SDL** code (see store balance check dial string notes above).

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

STORE THE MASTER TELEPHONE NUMBER (STM)

The master telephone number is the number which will receive automatic balance updates when the balance gets low (if this feature is setup) and/or will receive the **S15** or **S25** messages if the auxiliary mode of the GSM interface has been set to either mode **001** or **005** (also refer to the notes **set auxiliary 1 and 2 modes** and the notes **store SMS message for auxiliary 1 or 2** on the previous pages).

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 (phone **ID.1 - ID.180** for VX2200 mode and phone **ID.1 - ID.100** for VX2300 mode), refer to the following **TBA** timeband notes on the next page. To store a master telephone number the following programming texts can be sent to the GSM interface.

1111STM"master no"	Store the telephone number, where master no = master telephone number.
1111STM"master no"?	As above 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 telephone number
1111STM""	Delete the master telephone number.
1111STM""?	Delete the master telephone number and send a confirmation text back to the sender.

FORWARD SMS MESSAGE TO MASTER TELEPHONE NUMBER (FSM)

It is possible to forward SMS messages to the stored master telephone number. This feature is particularly useful if the SIM card used in the GSM intercom receives network text updates or promotional text messages from the network service provider that the end user is required or wishes to see. The following command will either enable (**001**) or disable (**000**, default) this feature.

1111FSMnnn	Set forward SMS message to the master telephone number, where nnn = 001 (enable) or nnn = 000 (disable).
1111FSMnnn?	As above and also 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 (also see **source of time/date updates NTZ** notes further on). First check the time/date is correct by sending the SMS message 1111CLK? (also refer to check intercoms time & date feature below). If the time/date returned is incorrect, it maybe that they do not support it. The clock can be set manually but any power cut will result in the time and date being lost unless battery backup is included.

The **TBA** timebands feature allows the telephone calls to the users phone ID (phone **ID.1 - ID.180** for VX2200 mode and phone **ID.1 - ID.100** for VX2300 mode) to be disabled or diverted to the master telephone number (if a master telephone number has been stored, refer to **STM** notes on the previous page) 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 (end) time**. The timeband can also be set for a specific day or days of the week to be active by adding the day or days to the end of the programming command. The timeband command also allows the holidays feature (**HOL**) to be enabled by including **Ho** at the end of the command (omitting **Ho** at the end of the timeband command disables the holidays feature). Refer to the **Days** table below for the codes used for the days required and to enable the holidays feature. For storing the dates for holidays refer to programming notes on how to **store up to 100 dates for holidays (HOL)** further on in this manual.

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	Ho = enable holidays	

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 period HHMMHHMM for timeband n . Where n = timeband 0 - 9 , the first HHMM is the start time and the second HHMM is the stop (end) time and days = the days of the week i.e. Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE, Ho (refer to the Days table above for options).
1111TBA"HHMMHHMM",days?	As above and send a confirmation text back to the sender with the stored timeband details.

Programming the GSM Module

1111TBA n ?	Query timeband. A text message will be sent to the sender with the stored timeband details. Where n = timeband 0 - 9.
1111TBA n ""	Delete the timeband and allow calls to be received at any time. Where n = timeband 0 - 9.
1111TBA n ""?	Delete and confirm deletion of the timeband. Where n = timeband 0 - 9.

Example 1: Program timeband 7 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 interface:

1111TBA7"08001700",AD?

The GSM interface will reply with the following text:

TB 7 = 08001700,Su,Mo,Tu,We,Th,Fr,Sa
VIDEX 4G

Example 2: Program timeband 4 where calls to the users are to be received on **Mondays, Tuesdays** and **Fridays** only, from 10:00am until 3:30pm and also enable the holidays, the following text can be sent to the GSM interface:

1111TBA4"10001530",Mo,Tu,Fr,Ho?

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 4 = 10001530,Mo,Tu,Fr,Ho
VIDEX 4G

Note that in both examples shown the confirmation text message from the GSM interface 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.

ASSIGN APARTMENT CALL TIMEBAND 0 - 9 TO A SPECIFIC PHONE ID (STB)

Once an apartment call timeband (TBA) has been stored it is possible to assign the timeband to a specific user's phone ID (phone ID.1 - ID.180 for VX2200 mode and phone ID.1 - ID.100 for VX2300 mode). This can be particularly useful if a user doesn't wish to be called during certain hours. The following text messages can be used to assign an apartment call timeband to a user's phone ID. By default all phone ID's are assigned to timeband 0 (00:00 - 23:59), for all days (AD).

1111STBiiin	Assign apartment call timeband n for user phone ID iii , where n = timeband 0 - 9 and iii = user's phone ID (001 - 180 for VX2200 mode and 001 - 100 for VX2300 mode).
1111STBiiin?	As above and send a confirmation text back to the sender with the stored details.

STORE ACCESS CONTROL TIMEBAND(S) FOR DTO NUMBERS, ALSO FOR CODES & PROXIMITY TO BE ACTIVE FOR (ATB)

This function together with the access levels feature ACC, described further on, allows the additional access control features i.e. proximity fobs/cards (0000 - 1999), coded access features (codes 000 - 399) and the dial to open DTO numbers (000 - 999) for both relays (1 & 2) to be programmed with up to 10 access control timebands (0 - 9). The access control timebands feature can be used to manage access rights for user proximity fobs/cards and door access codes if the GSM interface is connected to any additional Art.4850R readers or to any Art.4903 keypads using the RS485 bus. This feature also allows the dial to open DTO numbers for both relays (1 & 2) to be enabled or disabled at various times.

Like the TBA timeband feature the **start** and **stop (end) times** for the access control timebands used in the programming command must use 24hr clock notation. For example, if timeband 1 is set from 8:45am to 7:30pm then the user(s) will only be able to use their fobs/cards, access code(s) and dial to open numbers between the hours of 08:45 in the morning until 19:30 in the evening. Also the timebands can be set for a specific day or days of the week to be active by adding the day or days to the end of the programming command. Like for the TBA feature the access control timeband command, ATB, also allows the holidays feature (HOL) to be enabled by including Ho at the end of the command (omitting Ho at the end of the timeband command disables the holidays feature). Refer to the **Days** table on the previous page for the codes used for the days required and to enable the holidays feature. For storing the dates for holidays refer to programming notes on how to **store up to 100 dates for holidays (HOL)** further on in this manual.

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.

1111ATB n "HHMMHHMM",days	Store the time period HHMMHHMM for timeband n , where n = timeband 0 - 9, the first HHMM is the start time for fobs/cards, access codes and DTO no's to be active (i.e. 0845 for 8:45am). The second HHMM is the stop (end) time for when fobs/cards, access codes and DTO no's will stop being active (i.e. 1930 for 7:30pm) and where days = Mo for Monday etc. and Ho = enable holidays (refer to the Days table on the previous page for options).
-----------------------------	---

Programming the GSM Module

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 0 - 9. A text message will be sent to the sender with the stored timeband no., time period, days active for and if holidays enabled.
1111ATBn""	Delete timeband n , where n = timeband 0 - 9.
1111ATBn""?	Delete and confirm deletion of the timeband.

Example: To set timeband 7 to allow for dial to open numbers (relay 1 only), any user proximity fobs/cards and any user door access codes to be active between **8:30am** in the morning until **2:00pm** in the afternoon, for weekends only and also to enable the holidays feature, the following text can be sent to the GSM interface:

1111ATB7"08301400",WE,Ho?

The GSM interface will reply with the following text:

ATB7 = 08301400,Su,Sa,Ho
VIDEX 4G

In this example the confirmation text received from the GSM interface will show the individual days of the weekend (**Saturday** and **Sunday**) after the timeband period of **08:30 - 14:00** that any proximity fobs/cards, access codes and DTO numbers (for relay 1) will be active for access control timeband 7. Also the holidays feature is enabled, so any holiday dates that occur will override the function of access control timeband 7.

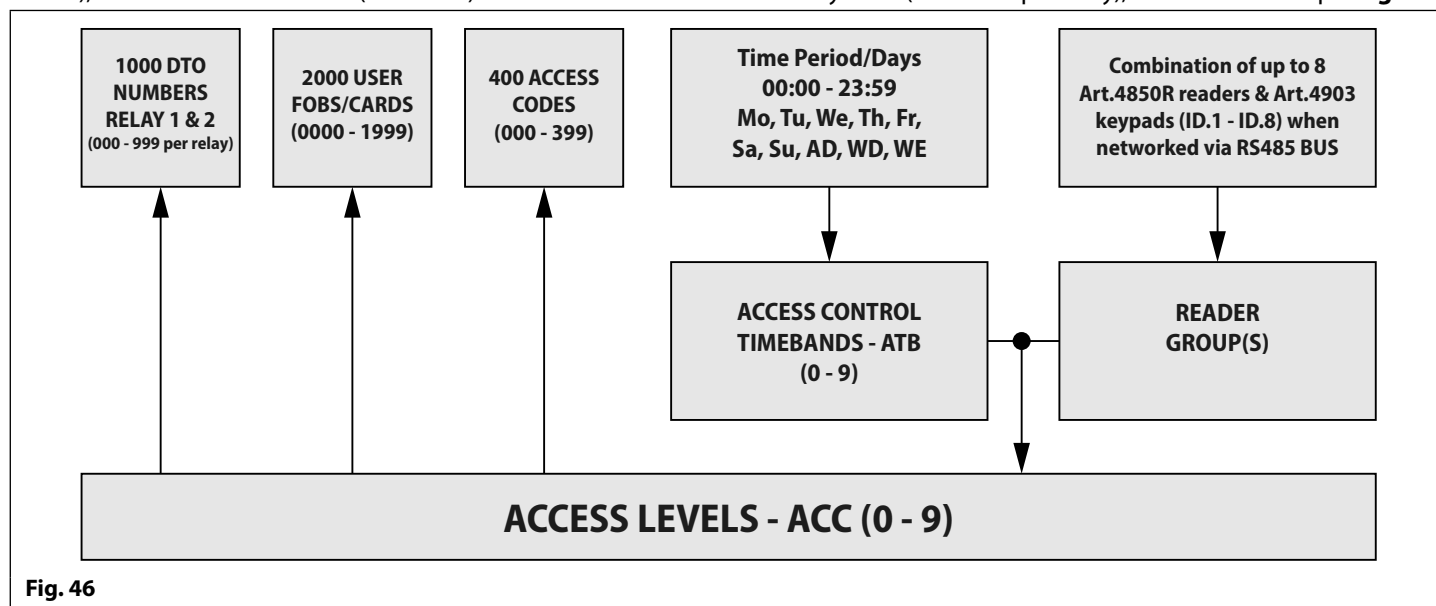
For example if the holiday dates were set as **10/02/24** and **11/02/24** respectively then timeband 7 would be enabled for weekend dates before **10/02/24** and after **11/02/24**, i.e. any proximity fobs/cards, access codes (for any networked **Art.4850R** readers and **Art.4903** keypads) and any DTO numbers will be active as expected, based on timeband 7 period of **08:30 - 14:00** as shown.

On the holiday dates **10/02/24** and **11/02/24** timeband 7 will be overridden and no proximity fobs/cards, access codes and DTO numbers will work. The normal timeband functions of timeband 7 will only resume again from the following weekend on **17/02/24** and only allow the proximity fobs/cards, access codes and DTO numbers to start working again from **08:30** in the morning (unless the date **17/02/24** itself was also set as a holiday date, in which case the proximity fobs/cards, access codes and DTO numbers would resume again from the next day - **18/02/24**).

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, ALSO FOR CODES & PROXIMITY TO BE ACTIVE FOR (ACC)

The GSM's access levels feature, **ACC** (from 0 - 9), can be made up of an access control timeband or group of access control timebands, **ATB** (from 0 - 9), where each timeband is made up from a time period (between **00:00 - 23:59**) and a day or days of the week. The access control timebands are also made up from reader groups and in the case of the GSM interface these reader groups are made up from a combination of **Art.4850R** proximity readers and/or **Art.4903** keypads when connected to the GSM's RS485 bus. Up to a total of 8 readers can be networked using the readers unit **ID.1 - ID.8** when connected via RS485 (also refer to RS485 bus network connection notes earlier on in this manual). When an access control timeband has been determined and reader groups have been created they can then be assigned to an access level (from 0 - 9). These access levels in turn can then be assigned to user proximity fobs/cards (**0000 - 1999**), a user door access code (**000 - 399**) and to the DTO numbers for relay 1 & 2 (**000 - 999** per relay), refer to the example **Fig.46**.



Please note that only 1 access level can be assigned to a user fob/card, a user door access code and a DTO number, however multiple

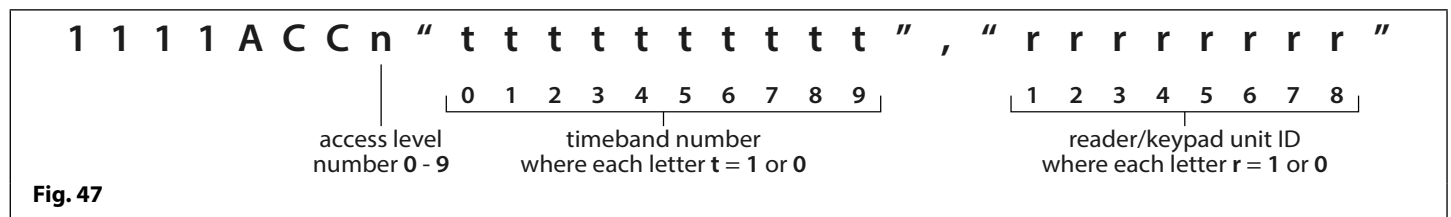
Programming the GSM Module

fobs/cards, door access codes and DTO numbers can be assigned the same access level. For example proximity fobs/cards ranging from 1 - 10, door access codes ranging from 22 - 56 and DTO numbers ranging from 1 - 150 can all be assigned to access level 3 and so on.

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

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

1111ACCn"ttttttttt";rrrrrrr"	Assign the timebands ttttttttt and the readers/keypads rrrrrrrr to access level n , where n = access level no. 0 - 9 , each of the timebands ttttttttt = 1 or 0 (where 1 = timeband assigned and 0 = timeband <u>not assigned</u>) and each of the readers/keypads rrrrrrrr = 1 or 0 (where 1 = reader/keypad assigned and 0 = reader/keypad <u>not assigned</u>), also refer to the ACC command string shown in Fig.47 .
1111ACCn"ttttttttt";rrrrrrr"?	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 and also send a confirmation text back to the sender confirming access level deleted.



Example: Following the format of the **ACC** command string shown in **Fig.47** 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 "**ttttttttt**" would be shown as "**101010101**" 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 interface to program an access level:

1111ACC8"101010101";11001100"?

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

AL8="101010101";11001100"
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 OR R2) WITH LATCH OR MOMENTARY TRIGGER (FRE)

The GSM interface has up to 10 programmable free access timebands (**0 - 9**) that can be setup to operate any of the onboard relays (**R1** or **R2**). 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 a **stop (end) time** (using 24hr clock notation) which can be set for a specific day or days of the week to be active.

If the selected output **R1** or **R2** 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 **stop (end) time** (i.e. the selected relay will stay latched for the duration of the timeband).

If the selected output **R1** or **R2** 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 **stop (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.

Like both the **TBA** and **ATB** timeband features the free access timeband command, **FRE**, also allows the holidays feature (**HOL**) to be enabled by including **Ho** at the end of the command (omitting **Ho** at the end of the timeband command disables the holidays feature). Refer to the **Days** table on page 41 for the codes used for the days required and to enable the holidays feature. For storing the dates for holidays refer to programming notes on how to **store up to 100 dates for holidays (HOL)** further on in this manual.

The following text messages can be used to setup the free access timebands to activate one of the GSM interface's relays and setup the selected output for latch or momentary trigger.

Programming the GSM Module

1111FREn"HHMMHHMM"days:m:o	Store the time period HHMMHHMM for timeband n , where n = timeband 0 - 9, the first HHMM is the start time for relay R1 <u>or</u> relay R2 to be active (i.e. 0845 for 8:45am). The second HHMM is the stop (end) time for when relay R1 <u>or</u> relay R2 will stop being active (i.e. 1930 for 7:30pm), where days = Mo for Monday etc. and Ho = enable holidays (refer to the Days table for options), output trigger m = L for latch <u>or</u> M for momentary and output selection o = R1 for relay 1 <u>or</u> R2 for relay 2.
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 2 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:R2?

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,R2
VIDEX 4G

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

IMPORTANT NOTE: If the selected output (R1 or R2) 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 stored 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.
----------	---

LOCK SPEECH CALL VOLUME LEVEL (LSP)

It is possible to lock the speech call volume levels (i.e. the speaker and mic volume of the intercom panel connected to the GSM interface) preventing them being changed during a call, also refer to the **user command tables** further on in this manual advising how to adjust the speech call volume levels electronically.

This feature is quite useful to avoid inadvertently adjusting the speech volume settings when using the telephone keypad for other user functions during a call. The following commands can be used to enable (001, lock) or disable (000, unlock default setting) this feature.

IMPORTANT NOTE: It should be noted that once this feature is enabled in order to re-adjust the speech volume levels during a call this feature must first be disabled so that the speech volume levels can be adjusted again.

1111LSPnnn	Lock speech call volume level, where nnn = 001 (lock, enable) <u>or</u> nnn = 000 (unlock, disable).
1111LSPnnn?	As above and 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 refer to notes on **source of time/date updates NTZ** further on in this manual). After a SIM has been placed into the GSM interface 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 interface 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 January 2023, the following text can be sent to the GSM interface:

1111CLK"23/01/18,10:05"

The GSM interface will reply with the following text:

CLK = 23/01/18, 10.05
VIDEX 4G

Programming the GSM Module

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

It is possible to setup the GSM interface 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 interface 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 <u>or</u> X to disable this feature, for phone ID.1 call button.
1111DTPn?	As above and also send a confirmation text back to the sender with the stored DTMF tone setting for phone ID.1 call button.
SET DTMF TONE REQUIRED FOR PHONE ID.1 CALL BUTTON DIVERT 1 NUMBER	
1111DTDn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 <u>or</u> X to disable this feature, for divert 1 for phone ID.1 call button.
1111DTDn?	As above and also send a confirmation text back to the sender with the stored DTMF tone setting for divert 1 for phone ID.1 call button.
SET THE DELAY TIME FROM WHEN THE CALL IS ANSWERED TO WHEN THE DTMF TONE IS SENT	
1111DTTnnn	Set the delay time nnn , where nnn = 001 - 012 seconds.
1111DTTnnn?	Set the delay 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 <u>or</u> X .
1111DTD?	Query the DTMF tone set, replies TD = n , where n = 0 - 9 <u>or</u> 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 <u>or</u> 000 (001 = enable, 000 = disabled).
1111EDZnnn?	Set the dial 0 function nnn: 001 <u>or</u> 000 (001 = enable, 000 = disabled) and also send a confirmation text back to the sender.
1111EDZ?	Query the dial 0 mode set.

IMPORTANT NOTE: When this feature is set the user answering the call must press '0' on their phone first 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 tables** further on in this manual) 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 <u>or</u> 000 (001 = enable, 000 = disabled).
1111ED#nnn?	Set the # function nnn: 001 <u>or</u> 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 memory location of where a dial to open telephone number, **DTO**, is stored in the GSM interface (between **000 - 999** for **S1R** and **S2R** respectively). It also confirms which dial to open list (**S1R list** or **S2R list**) 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"tele"?	Find dial to open location of telephone number tele stored, where tele = dial to open telephone number (minimum of 4 digits).
----------------	---

Programming the GSM Module

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

1111FDT"01234567890"?

The GSM module will reply with the following text:

**STORED IN (x) nnn
VIDEX 4G**

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

Example 2: Find the memory location of the dial to open telephone number using the last 4 digits of the number **4567**, the following text can be sent to the GSM interface:

1111FDT"4567"?

The GSM module will reply with the following text:

**STORED IN (x) nnn
VIDEX 4G**

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

⚠ IMPORTANT: IN ORDER FOR THE ART.2870 GSM INTERFACE MODULE TO FUNCTION CORRECTLY AND EFFECTIVELY THE FIRST PHONE ID (SID) AND THE LAST PHONE ID LIMITS (EID) MUST BE SET.

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 **pn** and divert numbers **d1**, **d2** and **d3**) that the GSM interface will dial when a call for that particular phone ID has been received on the databus connection from the intercom panel. For the VX2200 system the phone ID range = **001 - 180** and for the VX2300 system the phone ID range = **001 - 100**.

For example on a VX2200 system the phone ID range **ID.1** to **ID.10** could be used for calling standard Videx audio or videophones and the phone ID range starting from **ID.11** upwards could be used purely to call programmed telephone numbers stored in the GSM interface. 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 interface 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 interface 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.1** (i.e. **SID = 001**), this default setting is the same for both VX2200 and VX2300 operating mode. The following programming commands can be sent to the GSM interface 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 (for VX2200) <u>or</u> phone ID from 001 - 100 (for VX2300).
1111SIDnnn?	As above and also send a confirmation text back to the sender.
1111SID?	Query the first phone ID to respond to stored in the GSM interface.

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 **pn** and divert numbers **d1**, **d2** and **d3**) that the GSM interface will dial when a call for that particular phone ID has been received on the databus connection from the intercom panel. As before for the VX2200 system the phone ID range = **001 - 180** and for the VX2300 system the phone ID range = **001 - 100**.

Using the same example as before, 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 interface 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 interface 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.180** (i.e. **EID = 180**) when the interface is in VX2200 operating mode or set to phone **ID.100** (i.e. **EID = 100**) when the interface is in VX2300 operating mode. The following programming commands can be sent to the GSM interface 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 (for VX2200) <u>or</u> phone ID from 001 - 100 (for VX2300).
1111EIDnnn?	As above and also send a confirmation text back to the sender.
1111EID?	Query the last phone ID to respond to stored in the GSM interface.

IMPORTANT NOTE: When programming the GSM interface it is important to always check and if necessary set both the first phone ID (**SID**) and the last phone ID (**EID**). If left unchecked or not properly set then a call from the intercom panel may not call through to the desired telephone numbers as the GSM interface will ignore any phone ID's that are not set between the first (**SID**) and last (**EID**) phone ID range.

Programming the GSM Module

END ON LAST DIVERT (EOD)

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

SHUTDOWN AND RESTART (RBT)

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

1111RBT	Shutdown and restart the GSM interface.
----------------	---

IMPORTANT NOTE: The RBT feature should not be confused with the 'hard-wired' reset (described on page 29). The RBT function simply powers down the GSM interface 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 interface is required the following text message can be sent to obtain the number.

1111IME?	Query IMEI number of the GSM interface, also send confirmation to the sender.
-----------------	---

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

1111IME?

The GSM interface will reply with the following text:

IMEI-357803045065535
VIDEX 4G

IMPORTANT NOTE: If installing the GSM interface for the first time, when registering the SIM card with the chosen network provider they may ask for the IMEI number of the GSM interface. 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 interface (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.2870 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's relays **R1** and **R2**, from being inadvertently unlatched by a programmed DTO number or by pressing the relevant button (**1** or **2** for the respective relays **R1** or **R2**) 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** and **R2T** have been set to **000**) they can still be unlatched using the relevant **1111RL1** or **1111RL2** 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 nnn, where nnn = 000 (disabled) <u>or</u> 001 (enabled).
1111LLAnnn?	Set the unlatch prevention feature to nnn, where nnn = 000 (disabled) <u>or</u> 001 (enabled). Also send a confirmation text back to the sender.
1111LLA?	Query the status of the unlatch prevention feature stored in the GSM interface.

NETWORK CONNECTION INDICATION (CON)

As well as checking the power & network status indication LED on the top pcb of the Art.2870 GSM (**Fig.3**, **F** 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 network the GSM interface is connected to, the following message can be sent to the GSM interface:

1111CON?

The GSM interface will reply with the following text:

CON=nG
VIDEX 4G

where **n** = **2**, **3** or **4** to indicate the network type.

Programming the GSM Module

SETUP THE GSM INTERCOM FOR DATA COMMUNICATION (APN)

The 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 (O₂, 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 mobile apps** notes on page 59.
- 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 **GSM SK** 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 O₂ pay and go SIM to the GSM module, where 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
VIDEX 4G

IMPORTANT NOTE: 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 following table 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 or BT mobile APN: everywhere Username: eesecure Password: secure
Provider: O₂ (contract) APN: mobile.o2.co.uk Username: o2web Password: password	Provider: O₂ (pay & go) APN: payandgo.o2.co.uk Username: payandgo Password: password	Provider: Giffgaff APN: giffgaff.com Username: gg Password: p
Provider: Tesco Mobile APN: prepay.tesco-mobile.com Username: tescowap Password: password	Provider: ASDA Mobile APN: MY.INTERNET Username: wap Password: wap	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).

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 its 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
VIDEX 4G

Programming the GSM Module

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 interface has been configured for data communication (**APN**) and added to the list of GSM modules with a username and password setup (**PAS**) the GSM interface itself requires the events to be enabled (i.e. the events from the GSM interface 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.

1111ENnnn	Enable the online events feature, where nnn = 000 (disabled) <u>or</u> 001 (enabled).
1111ENnnn?	Enable the online events feature, where nnn = 000 (disabled) <u>or</u> 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 further on in the **managing GSM events remotely** section.

SETUP PORT FORWARDING FOR CONNECTION TO A SERVER (SER)

Before setting up a connection to a server the GSM interface must first be setup for data communication using the **APN** programming command (see **APN** setup notes and example on the previous page), 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 interface 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 interface 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 GSM interface 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 interface 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 interface is able to synchronise its clock with an online **NTP server**.

By default the GSM interface 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 it. 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) <u>or</u> 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 interface 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: Please note 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.

Programming the GSM Module

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

If the GSM interface 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 GSM interface 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 GSM interface:

1111TZ+004?

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

TZ+004
VIDEX 4G

UTC TIME ZONE FOR COUNTRIES BEHIND UTC (TZ-)

If the GSM interface 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 GSM interface 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 GSM interface:

1111TZ-020?

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

TZ-020
VIDEX 4G

DAYLIGHT SAVINGS TIME ADJUSTMENT (DST)

If the GSM 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 interface.

 **IMPORTANT NOTE:** IT WILL BE NECESSARY TO REBOOT THE POWER TO THE GSM INTERFACE 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.

Programming the GSM Module

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

If an Art.4850R expansion proximity reader has been networked with the GSM interface module 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_V2-3 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 (02).
- **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 (02) or 3 bytes (03).
- **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 (02), 3 bytes (03) or 4 bytes (04).

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. Currently HID and Mifare cards cannot be used.

STORE A PROX FOB/CARD TO A KNOWN LOCATION (0000 - 1999) OR STORE IN THE NEXT AVAILABLE LOCATION USING EITHER THE SITE CODE & USER CODE OR THE FOB/CARD ID (FOB)

Once the number of bytes to check for has been set (see PBY setup previously described) the proximity fobs/cards can be programmed into the GSM interface. It can store up to 2000 user 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 may have no site code (sc), but will have a 5 digit user code (uc), so the PBY function must be set to 02 (the default setting, checking for 2 bytes).
- **PBX1E or PBX2** = Portal Plus fobs or cards. These fobs and cards will usually have a 3 digit site code (sc) and a 5 digit user code (uc), so the PBY function can be set to 02 or 03.

It is also possible that the above types of fobs/cards will have a 10 digit number printed on it instead of the 3 digit site code (sc) & 5 digit user code (uc), this 10 digit number is the fob/card ID (cid). In other cases the fob/card may have both sets of numbers i.e. it will have the site code (sc) & user code (uc) and the fob/card ID (cid) printed on it, in which case the fob/card can be programmed using either of these sets of numbers.

The following table shows the FOB programming commands that can be used to program fobs/cards to a known memory location (nnnn) from 0000 - 1999 by using the site code (sc) & user code (uc) or by using the fob/card ID (cid).

FOB programming command using site code (sc) & user (uc) and storing in a known memory location 0000 - 1999	
1111FOBnnnn"sc","uc" <u>or</u> 1111FOBnnnn"0","uc"	Store a fob/card in location nnnn, where nnnn = the memory location from 0000 - 1999 where the fob/card is to be stored. The site code sc and user code uc is the number taken directly from the fob/card. For fobs/cards without a site code (sc) then a 0 must be inserted for the site code.
1111FOBnnnn"sc","uc"? <u>or</u> 1111FOBnnnn"0","uc"?	As above, including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.
FOB programming command using fob/card ID (cid) and storing in a known memory location 0000 - 1999	
1111FOBnnnn"cid" <u>or</u> 1111FOBnnnn"cid"?	Store a fob/card in location nnnn, where nnnn = the memory location from 0000 - 1999 of where the fob/card is to be stored. The fob/card ID cid is the number taken directly from the fob/card. Including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.
FOB programming command to query the fob/card details in a known memory location 0000 - 1999	
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:

Programming the GSM Module

Example 1: Programming a PBX1E or PBX2 with a 3 digit site code (sc) of 123 and a 5 digit user code (uc) of 45678 and storing it in memory location 0010, the following text can be sent to the GSM interface:

1111FOB0010"123","45678"

Example 2: Programming a 955/T, 955/C, PBX1E or PBX2 with a fob/card ID (cid) of 0003533578 and storing it in memory location 1256, the following text can be sent to the GSM interface:

1111FOB1256"0003533578"?

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

FOB 1256 = 0003533578

VIDEX 4G

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 interface with existing fobs and cards already programmed into it, but the memory locations of where they are stored is unknown. In the next table and using the same FOB programming text format, i.e. using the site code (sc) & user code (uc) or fob/card ID (cid), 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 available memory location.

FOB programming text using site code (sc) & user (uc) and storing in the next available memory location	
1111FOB"sc","uc" or 1111FOB"0","uc"	Store a fob/card in the next available (free) memory location. The site code sc and user code uc is the number taken directly from the fob/card. For fobs/cards without a site code (sc) then a 0 must be inserted for the site code.
1111FOB"sc","uc"? or 1111FOB"0","uc"?	As above, including the ? at the end of the text message to send a confirmation text back to the sender with the stored fob/card details.
FOB programming text using fob/card ID (cid) and storing in the next available memory location	
1111FOB"cid" or 1111FOB"cid"?	Store a fob/card in the next available (free) memory location. The fob/card ID cid is the number taken directly from the fob/card. Including the ? at the end of the text message to send a confirmation text back to the sender with the stored fob/card details.

STORE A PROX FOB/CARD TO A KNOWN LOCATION (0000 - 1999) OR STORE IN THE NEXT AVAILABLE LOCATION USING EITHER THE SITE CODE & USER CODE OR THE FOB/CARD ID AND INCLUDING AN ACCESS LEVEL (FOB)

The same FOB programming command can also be used to assign an access level (0 - 9) 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 table shows the FOB programming commands that can be used.

FOB programming command using site code (sc) & user (uc), storing in a known memory location 0000 - 1999 and assigning an access level (An)	
1111FOBnnnn"sc","uc"An or 1111FOBnnnn"0","uc"An	Store a fob/card in location nnn and assign access level An, where nnnn = the memory location 0000 - 1999 where the fob/card is to be stored and where the access level An = A0 - A9. The site code sc and user code uc is the number taken directly from the fob/card. For fobs/cards without a site code (sc) then a 0 must be inserted for the site code.
1111FOBnnnn"sc","uc"An? or 1111FOBnnnn"0","uc"An?	As above, including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.
FOB programming command using fob/card ID (cid), storing in a known memory location 0000 - 1999 and assigning an access level (An)	
1111FOBnnnn"cid"An or 1111FOBnnnn"cid"An?	Store a fob/card in location nnnn and assign access level An, where nnnn = the memory location 0000 - 1999 of where the fob/card is to be stored and where the access level An = A0 - A9. The fob/card ID cid is the number taken directly from the fob/card. Including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.
FOB programming command using site code (sc) & user (uc), storing in the next available memory location and assigning an access level (An)	
1111FOB"sc","uc"An or 1111FOB"0","uc"An	Store a fob/card in the next available (free) memory location and assign access level An, where An = A0 - A9. The site code sc and user code uc is the number taken directly from the fob/card. For fobs/cards without a site code (sc) then a 0 must be inserted for the site code.
1111FOB"sc","uc"An? or 1111FOB"0","uc"An?	As above, including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.
FOB programming text using fob/card ID (cid) and storing in the next available memory location and assigning an access level (An)	
1111FOB"cid"An or 1111FOB"cid"An?	Store a fob/card in the next available (free) memory location and assign access level An, where An = A0 - A9. The fob/card ID cid is the number taken directly from the fob/card. Including a ? at the end of the text will send a confirmation text back to the sender with the stored fob/card details.

Programming the GSM Module

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

1111FOB0004"0","21092"A5?

As described above for fobs/cards without a site code (sc) a 0 must be inserted for the site code. Also including a ? at the end of the programming command the GSM interface will reply with the following text:

FOB 0004 = 0000021092,A5

VIDEX 4G

Example 2: Programming a PBX1E or PBX2 with a 3 digit site code (sc) of 241 and a 5 digit user code (uc) of 15432, storing it into 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 interface:

1111FOB"241""15432"A3?

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

FOB 0097 = 0024115432,A3

VIDEX 4G

Example 3: Programming a 955/T, 955/C, PBX1E or PBX2 with a fob/card ID (cid) of 0009622953 and storing it into the next free memory location (if locations 0000 - 0032 are occupied) and assigning it to access level A7, the following text can be sent to the GSM interface:

1111FOB"0009622953"A7?

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

FOB 0033 = 0009622953,A7

VIDEX 4G

FIND A FOB OR CARD USING THE FOB/CARD USER CODE OR FOB/CARD ID (FDF)

The find a fob or card feature allows the user to search and find the memory location, between 0000 - 1999, where a proximity fob or card is stored in the GSM interface. This feature can locate the fob/card using either the 5 digit user code (uc) or the 10 digit fob/card ID (cid) printed on the fob/card (also see the following examples). The following text messages can be used.

1111FDF"uc"?	Find the fob/card memory location using the fob/card user code, where uc = 5 digit user code printed on fob/card. The ? must be included at the end of the text message in order to receive a confirmation text back with the stored fob/card details.
1111FDF"cid"?	Find the fob/card memory location using the fob/card ID, where cid = 10 digit card ID number printed on fob/card. The ? must be included at the end of the text message in order to receive a confirmation text back with the stored fob/card details.

Example 1: To find the fob/card memory location using the 5 digit user code (uc) of 12345, the following text can be sent to the GSM interface:

1111FDF"12345"?

The ? must be included at the end of the text message in order to receive a confirmation text back. The GSM interface will reply with the following text:

STORED IN nnnn

VIDEX 4G

where nnnn = is the memory location, 0000 - 1999, where the fob/card is stored.

Example 2: To find the fob/card memory location using the 10 digit fob/card ID (cid) of 0001234567, the following text can be sent to the GSM interface:

1111FDF"0001234567"?

The ? must be included at the end of the text message in order to receive a confirmation text back. The GSM interface will reply with the following text:

STORED IN nnnn

VIDEX 4G

where nnnn = is the memory location, 0000 - 1999, where the fob/card is stored.

DELETE A FOB OR CARD WITHOUT KNOWING ITS LOCATION USING THE FOB/CARD USER CODE OR FOB/CARD ID (DEF)

This feature allows the user to delete a fob or card without knowing the memory location of where it is stored in the GSM interface. This feature uses either the 5 digit user code (uc) or the 10 digit fob/card ID (cid) that is 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. The following text message can be used.

1111DEF"uc" or 1111DEF"cid"?	Find the fob/card memory location using the user code and delete from the GSM, where uc = 5 digit user code printed on the fob/card. Including the ? at the end of the text message to send a reply text back to the sender to confirm that the fob/card has been deleted.
------------------------------------	--

Programming the GSM Module

1111DEF"cid" or 1111DEF"cid"?	Find the fob/card memory location using the fob/card ID and delete from the GSM, where cid = 10 digit fob/card ID printed on the fob/card. Including the ? at the end of the text message to send a reply text back to the sender to confirm that the fob/card has been deleted.
-------------------------------------	---

Example 1: Delete a fob/card with a user code (**uc**) of **54321**, the following text can be sent to the GSM interface:

1111DEF"54321"?

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

**DELETED
VIDEX 4G**

Example 2: Delete a fob/card with a fob/card ID (**cid**) of **0003496990**, the following text can be sent to the GSM interface:

1111DEF"0003496990"?

By including a ? at the end of the text the GSM will send a confirmation reply that the fob/card has been deleted.

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**) door access codes to be programmed into the GSM interface. These codes are stored in the GSM's internal memory and not the keypad itself. These access 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 interface:

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 interface will reply with the following text:

**PIN 001=4321,12
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 door access codes into a GSM interface 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 interface:

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 interface will reply with the following text:

**PIN 095=12345678,2
VIDEX 4G**

In this example the reply from the GSM shows that the access code **12345678** is stored in memory location **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

Programming the GSM Module

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 interface:

1111PIN008"654321"A4?

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

PIN 008 = 654321,1,A4
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 interface:

1111PIN"15432"A3?

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

PIN 126 = 15432,1,A3
VIDEX 4G

In this example the 5 digit code is 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 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 interface:

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 interface will reply with the following text:

PIN 028 = 5678,12,A9
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 above, 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 interface (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 valid 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.

Programming the GSM Module

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. <u>Note that if T is omitted default time T = 8 hours.</u>
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. <u>Note that if T is omitted default time T = 8 hours.</u> Also send a confirmation text back to the sender with details of which relays will be activated.

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 interface:

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 interface will reply with the following text:

**TMP PIN TMP=234567,12
VIDEX 4G**

In this example the reply from the GSM interface 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 interface 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 interface. It locates the memory location 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 interface.:

1111FDC"54321"?

The GSM interface will reply with the following text:

**STORED IN nnn
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
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 interface. 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 interface:

1111DEC"87654321"?

The GSM interface will reply with the following text:

**DELETED
VIDEX 4G**

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

Programming the GSM Module

DELETE ALL TEMPORARY ACCESS CODES (DEP)

This feature allows the user to delete all temporary access codes from the GSM interface. 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. 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 instructions: **2813_66251545_V1-1** (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.000 to ID.063 . 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.000 to ID.063 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.

STORE UP TO 100 DATES FOR HOLIDAYS (HOL)

It is possible to store up to 100 dates for holiday periods (**000** - **099**) that will override any call timebands (**TBA**), any free access timebands (**FRE**) programmed and also override any access control timebands (**ATB**) and access levels (**ACC**) that have been assigned to any of the user's 2000 proximity fobs/cards, 400 keypad access codes and 1000 DTO numbers for relay 1.

It should be noted that this programming command only stores the actual holiday dates in the GSM, the holidays feature is enabled and disabled through the timeband programming commands, **TBA**, **FRE** and **ATB**. For examples please refer back to the previous pages regarding how these respective timeband features are setup and the holidays are enabled.

The following text message can be used to store the holiday dates and query the dates stored in the GSM interface.

1111HOLnnn"dd/mm/yy"	Store a holiday date in the GSM, where nnn = the location (number) where the holiday is stored (000 - 099) and where dd/mm/yy = the date of the holiday (format: dd = day of the month, mm = month and yy = year).
1111HOLnnn"dd/mm/yy"?	As above and also send a confirmation text back to the sender of where the date is stored and the date of the holiday.
1111HOLnnn?	Confirm the date of the holiday stored in location nnn .

ENABLE THE GSM MODULE TO WORK WITH A CONCIERGE STATION (ENC) - VX2300 MODE ONLY

When the GSM module has been setup in VX2300 mode it is possible to enable or disable the GSM to work with a concierge station, **CST2310**, if a concierge station is present on the VX2300 system.

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 the GSM module to work with a concierge station.

1111ENCnnn	Enable the GSM module to work with a CST2310 concierge station (when in VX2300 mode only), where nnn = 000 (disabled - default) or 001 (enabled).
1111ENCnnn?	As above and also send a confirmation text back to the sender.
1111ENC?	Query if the GSM module has been enabled or disabled to work with a CST2310 concierge station.

The GSM Mobile Apps

VIDEX SMS ACCESS, SMS WIZARD & SMS WIZARD PRO

In addition to programming by direct text messages or using the **GSM SK** PC programming software it is also possible to program the GSM interface 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 interface 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, 2270 GSM interface and 2870 GSM interface) 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.2870**.
- **Firmware level of the GSM intercom/interface** - e.g. for the **Art.2870 GSM** the firmware might be **MD124r0** (the current firmware version of the GSM interface 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 the **programming the GSM module** notes).
- **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/interface** - 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)** and **resetting the master code to 1111** notes on the previous pages 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.48**.

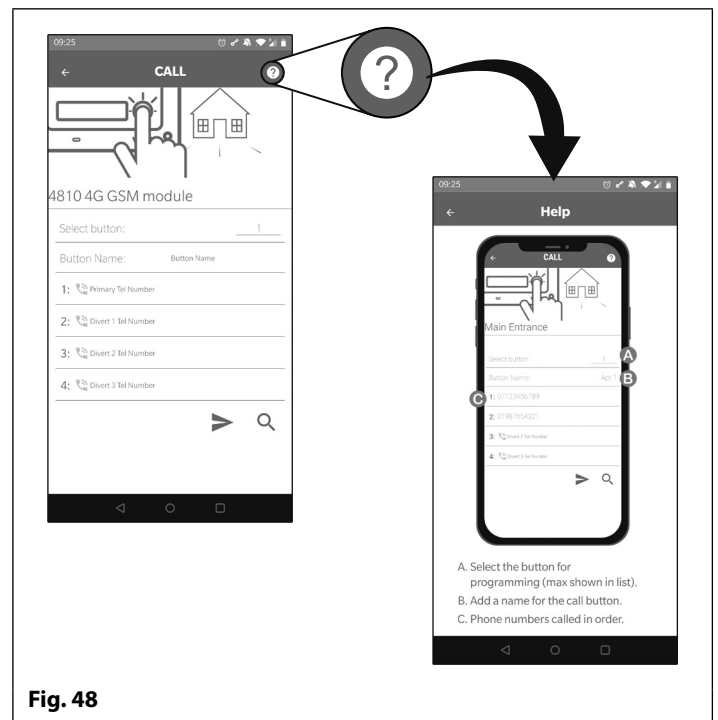


Fig. 48

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 interface module will be switched **OFF**, as shown in **Fig.49**.

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 refer to **SID** and **EID** programming notes earlier in this manual) the GSM 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.50**.

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** programming notes earlier in this manual.

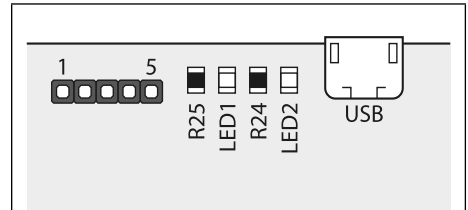


Fig. 49



Fig. 50

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 notes and **DIT** divert time setup notes earlier in this manual).

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

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

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 relevant technical documents that came with the intercom panel).

DIAL TO OPEN RELEASE FOR THE GSM INTERFACE RELAYS 1 AND 2

Activating the GSM interface's onboard relays 1 and 2 is only possible if the caller's number has been stored correctly for this feature (also refer to **storing dial to open numbers programming** notes **S1R** and **S2R** earlier in this manual for correct setup).

Simply dial the mobile number of the SIM in the GSM interface. The GSM interface will recognise the stored dial to open number calling and the red LED (LED1) will switch **ON**, as shown in **Fig.51**. The GSM interface will drop the call and trigger the relevant relay (1 or 2) for the programmed relay time (**R1T** or **R2T**). After the relay time has elapsed the red LED (LED1) will switch **OFF**.

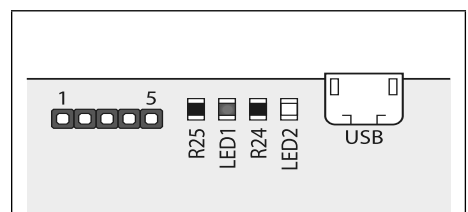


Fig. 51

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 interface then the GSM interface 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 programming the GSM module notes for more 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 programming the GSM module notes for more 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 interface ²	1	n/a
Activate Relay 2 on GSM interface ²	2	n/a
Electronically adjust door speech volume (panel's speaker) via GSM interface	4	0 - 9 (0 = lowest, 9 = highest)
Electronically adjust phone speech volume (panel's mic) via GSM interface	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 interface relay(s) 1 or 2 will activate when button 3 is pressed on the phone is when the auxiliary mode(s) **A1M** or **A2M** on the GSM interface has been set to mode **006** (relay 1 or 2 triggered by door ID 1 or 2 respectively), also refer to **auxiliary inputs and relay outputs** setup notes on pages 18 - 21 and **Fig.20** on page 21.

² - Pressing 1 or 2 on the phone after a call has been answered will activate relay 1 or 2 respectively on the GSM interface, regardless of which auxiliary mode(s) **A1M** or **A2M** on the GSM interface has been set to. The relay(s) will activate for the programmed relay time **R1T** or **R2T**. If the relay time has been set to latch mode (set to **000**) then pressing 1 or 2 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 interface 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** section of this manual.

FUNCTION	MESSAGE TO SEND
Check the signal strength	1111SIG?
Confirm the network provider's name	1111SPN?
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).
Check GSM relay 1 status	1111R1S?
Check GSM relay 2 status	1111R2S?
Check Timeband setting (for phone ID's)	1111TBAn? (where n = apartment call timeband 0 - 9).
Query Access Control Timebands (0 - 9)	1111ATBn? (where n = access control timeband 0 - 9).
Query Access Level (0 - 9)	1111ACCn? (where n = access level 0 - 9).
Query Free Access Timebands setting (0 - 9)	1111FREn? (where n = free access timeband 0 - 9).
Check Intercom Time and Date	1111CLK?
Find a Dial to Open (DTO) No. ⁵	1111FDT"tele"? (where tele = phone number, min of last 4 digits).

The following 4 commands are only applicable when an **Art.4850R** proximity reader and/or **Art.4903** keypad are connected via the RS485 bus.

Find a Fob or Card location (0000 - 1999)	1111FDF"uc"? or 1111FDF"cid"? (where uc = 5 digit user code and cid = 10 digit fob/card ID printed on fob/card).
Delete a Fob or Card	1111DEF"uc"? or 1111DEF"cid"? (where uc = 5 digit user code and cid = 10 digit fob/card ID printed on fob/card).
Find an Access Code (000 - 399)	1111FDC"code"? (where code = 4 to 8 digit access code).
Delete an Access Code	1111DEC"code"? (where code = 4 to 8 digit access code).

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

User Commands

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).
------------------------------	---

- ³ - The balance can only be checked if the correct balance check string has been stored (see balance check **SDL** notes earlier in this manual).
- ⁴ - When sending the text message 1111RL1? or 1111RL2? then relay 1 or 2 will activate respectively on the GSM interface, regardless of which auxiliary mode(s) **A1M** or **A2M** on the GSM interface has been set to. The relay(s) will activate for the programmed relay time **R1T** or **R2T**. If the relay time has been set to latch mode (set to **000**) then sending the text message 1111RL1? or 1111RL2? 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.

DIALING INTO THE GSM INTERFACE FROM A NUMBER STORED IN THE PHONE ID RANGE ID.1 - ID.180 FOR VX2200 OR PHONE ID RANGE ID.1 - ID.100 FOR VX2300 (PRIMARY NO. PN, OR DIVERT NO. D1, D2 AND/OR D3)

If a user dials into the GSM interface from a number stored in the interface as either a primary number (**pn**) or one of the 3 divert numbers (**d1**, **d2** or **d3**), which are stored as part of the phone ID range **ID.1 - ID.180** (VX2200 mode) or phone ID range **ID.1 - ID.100** (VX2300 mode) then the user can connect the call to the VX2200 or VX2300 intercom panel that is connected to the GSM interface and open the speech to that intercom panel.

After dialling into the GSM interface for the user to open speech to the VX2200 or VX2300 intercom panel they simply press the relevant button on their phone's keypad, **1 - 9**, to match the door panel ID that the call is connected to.

For example if the user dials into the interface that is connected to an intercom panel whose door ID is set to **ID.6** they would simply press **6** on their phone to open the speech to the intercom panel. The maximum door panel ID range therefore can only be **ID.1** to **ID.9**. The details on how to setup an intercom panel door ID can be found in the relevant technical documents that came with the respective VX2200 or VX2300 intercom panel.

If, however, the number calling the GSM interface is stored as a dial to open number (**DTO**) then the interface will simply drop off the call and operate the respective relay as expected (this is based on which dial to open list the number is stored in i.e. **S1R** or **S2R** list).

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 interface 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 interface, described in the **programming the GSM module** notes earlier in this manual, speech and DTMF signals used by the GSM interface 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 interface:

SIGNAL = 31

BER = 0

VIDEX 4G

To achieve the best overall performance from the GSM interface a high signal strength **SIG** and low bit error rate **BER** is required. In the event that a low signal strength and high bit error rate is received it is recommended that the **Art.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 three possible outcomes to dialling into the **Art.2870** GSM interface module:

1. After dialling the GSM number the required relay (1 or 2) will activate and the call will be dropped, provided that the telephone number which is making the call is programmed into one of the 2 dial to open lists (using the **S1R** and **S2R** programming commands described earlier in this manual) and any "caller ID" or "withheld number" feature is switched **OFF**. Remember the dial to open feature will only activate the GSM interface's onboard relay(s) and not the relay on the intercom panel that the GSM interface module is connected to.
2. If a call is made to the GSM interface from a number that is not stored as a dial to open number (**DTO**), but is stored within the phone ID range **ID.1 - ID.180** (for VX2200 mode) or the phone ID range **ID.1 - ID.100** (for VX2300 mode) i.e. the number is stored as a primary number (**pn**) or one of the 3 divert numbers (**d1**, **d2** and **d3**), it is possible for the user to connect the call to the VX2200 or VX2300 intercom panel that is connected to the interface and open speech. The user simply presses the relevant button on their phone's keypad, **1 - 9**, to match the door panel ID that the call is connected to. For example if the user dials into the interface that is connected to an intercom panel whose door ID is set to **ID.6** they would simply press **6** on their phone to open the speech to the intercom panel, (also refer to **user commands** notes on the previous page).
3. If a call is made to the GSM interface from a number that is not stored in it at all then the GSM interface will simply drop the call and no further action will take place.

SETUP CHECK LIST



IMPORTANT NOTE: BEFORE USING THE ART.2870 GSM INTERFACE FOR THE FIRST TIME PLEASE RUN THROUGH THE CHECK LIST BELOW TO ENSURE THAT THE GSM INTERFACE HAS BEEN SETUP CORRECTLY. IN PARTICULAR PLEASE ENSURE THAT THE FIRST PHONE ID (SID) AND THE LAST PHONE ID LIMITS (EID) HAVE BEEN SET (REFER TO BOTH SID AND EID PROGRAMMING NOTES DESCRIBED EARLIER IN THIS MANUAL).

- ☒ Inserted a pre-registered nano SIM card, connected an **Art.434** antenna and 12Vdc power.
- ☒ The **Art.2870** GSM interface is setup in the correct operating mode, VX2200 or VX2300 (dependent on digital system).
- ☒ Connected the **Art.2870** GSM interface to the L/- databus for VX2200 systems or **BUS/BUS** databus for VX2300 systems.
- ☒ Set the first phone ID (**SID**) which the **Art.2870** GSM interface will respond to.
- ☒ Set the last phone ID (**EID**) which the **Art.2870** GSM interface 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** code lock 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 interface 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 interface 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 bus with the Art.2870 GSM interface, however a USB cable is still connected to the GSM interface (regardless whether a fob/card is programmed into the GSM interface or not). OR The reader is not networked via RS485 bus with the Art.2870 GSM interface.	Check one of the following: 1. Check to see if a USB cable is still connected to the GSM interface and unplug. 2. Check the A, B and GND connections on the RS485 terminals between the GSM interface and the reader, ensure the connections 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 interface 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.2870 GSM interface.	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.2870 GSM interface. OR Access code entered via the keypad is stored in the GSM interface 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 interface 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

To manage the GSM interface more 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, fob/cards, access codes and system settings stored in the GSM interface. This will also be useful if any future changes need to be made.

USING THE GSMSK PC SOFTWARE TO MANAGE USER INFORMATION AND DOWNLOAD STORED EVENTS

Because of the high volume of user information that may need to be recorded it is possible to use the **GSMSK** PC software (version **4.2.0.0** or later) to record and save the user's information as an excel spreadsheet using the 'Export' feature. The **GSMSK** software can be used to record and save the call button setup (including divert numbers), the dial to open numbers, the proximity fob/card numbers and access codes. The software can also be used to download up to 8000 stored events from the GSM interface.

Further information can be found in the following technical manual: **GSMSK_66251720-EN_V2-3** (or later version)

MANAGING GSM EVENTS REMOTELY

Users can also remotely monitor events in real-time from the GSM interface 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 interface 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 (as shown below) and help on this can be found once registered and logged in. The steps below is a quick guide on how to setup a GSM to allow events communication between the 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 programming section).
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: **1111ENE001?**

GSM CLOUD (REMOTE MANAGEMENT AND PROGRAMMING)

It is also possible to remotely manage, program and monitor events of the GSM interface through the **GSM cloud** management platform by registering for an account at cloud.videxservices.uk. The **GSM cloud** is a web browser based application which allows multiple Videx 4G GSM modules to be managed from anywhere with an internet connection.

⚠ IMPORTANT NOTE: THE GSM CLOUD IS A PAID SUBSCRIPTION BASED MANAGEMENT PLATFORM. ONCE SIGNED UP AND REGISTERED TO THE GSM CLOUD A SUBSCRIPTION KEY WILL BE REQUIRED FOR EACH GSM MODULE.

THERE ARE THREE AVAILABLE SUBSCRIPTION TIERS AS DESCRIBED BELOW.

TO APPLY FOR A SUBSCRIPTION KEY FOR UK & IRELAND CUSTOMERS PLEASE CONTACT :

VIDEX SECURITY LTD (UK) - TEL: (+44) 0370 300 1240, EMAIL: sales@videxuk.com

TO APPLY FOR A SUBSCRIPTION KEY FOR OVERSEAS CUSTOMERS PLEASE CONTACT :

VIDEX ELECTRONICS S.P.A. - TEL: (+39) 0374 631 699, EMAIL: info@videx.it

GSM CLOUD SUBSCRIPTION TIERS

1. **Occasional use tier** - for users or installers where changes to the GSM system are infrequent.
2. **Moderate use tier** - which could be used by local authorities, housing associations & users who need to make moderate changes to the GSM system.
3. **High volume tier** - for users who need to make regular changes to a GSM system e.g. for those managing air bnb properties, holiday parks etc. where a high volume of changes may be required to accommodate the ever changing visitors to the properties.

Troubleshooting

SYSTEM CHECKS AND TESTING

The following table can be used to help diagnose any potential issues that may 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 interface increases its 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 interface.
	Try a different SIM card from a different service provider as they may have better coverage in that area.
The GSM interface is unresponsive.	Check the power supply output for the GSM interface has adequate voltage (12Vdc minimum) as described earlier in this manual.
	Try a full reset (refer to notes on page 29) following the full reset procedure with A1 and A2 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 interface 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 pages 7 - 8 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 interface (see STN notes earlier in this manual). 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 earlier in this manual).
	Check the SIM card is fitted correctly (refer to notes on page 28).
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
	Check the GSM interface has the correct 12Vdc power on the + and - terminals.
	Check the L and - databus connections are connected correctly on the GSM interface 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 interface (see previous note above).
	Also refer to the troubleshooting section on any accompanying technical documents for the functional panel being installed for further guidance.
The door panel display shows 'busy', 'error' or 'not found' when an apartment is called on a digital panel (refer to table on 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 interface (see STN notes earlier in this manual). 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 earlier in this manual).
	Check the SIM card is fitted correctly (refer to notes on page 28).
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
	Check the GSM interface has the correct 12Vdc power on the + and - terminals.
	Check the databus connections are wired correctly on the GSM interface (L/- databus for VX2200 mode or BUS/BUS for VX2300 mode) and from the digital panel installed and also check it has sufficient bus voltage: For VX2200 systems, 7.5Vdc minimum on the L/- databus and for VX2300 systems, 30-32Vdc minimum on the BUS/BUS databus.
	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 interface (see previous note above).
	Also refer to the troubleshooting section on any accompanying technical documents for the digital panel being installed for further guidance.

Troubleshooting

The GSM interface 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 interface).
	Try a different SIM card from a different network provider.
	Try resetting the 4 digit master code to 1111 (refer to notes on page 29) following the master code reset procedure with A1 linked to the - terminal.
	Check the power supply output for the GSM interface has adequate voltage (12Vdc minimum) as described earlier in this manual.
	Check the antenna is connected correctly (refer to notes on pages 8 - 9).
The GSM interface 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 usually be done via the settings icon on the smartphone. If you are unsure of how to do this Videx recommend consulting with the user's manual that came with the smartphone or consulting directly with the manufacturer of the smartphone.
The call keeps dropping out.	Increase the call time (SPT), refer to SPT programming notes earlier in this manual.
	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 adjusting the speech volumes electronically using the programmable settings during a call, i.e. when the speech is live (refer to user command table on pages 61 - 62).
	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 interface 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 61) does not work then check to see if the ED# function 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 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 these features and on the setup of their functions can be found in the programming section earlier in this manual. Check if the GSM interface's relays have been setup with any free access timebands, as the free access feature takes priority over other programming or modes that may have been setup for the relay outputs (also see notes on free access timebands, FRE, in the programming section earlier in this manual). Check if the signal strength of the GSM interface is good (as close to 31 as possible) and the bit error rate (BER) is low (as close to 0 as possible) for the best possible performance. If the signal strength is low and the BER is high it can effect the DTMF tones of the GSM. Try moving the antenna to a different location to try and improve the signal or if necessary swap out the antenna for a high gain antenna.
---	--

IMPORTANT NOTE: The suggestions covered in this troubleshooting section primarily covers the system checks to try for the GSM interface. Since the GSM interface 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.

If any of the suggestions in the table does not resolve the problem then please contact Videx technical on tel: (+44) 0191 224 3174 for further assistance. For overseas customers contact Videx customer support on tel: (+39) 0734 631 699 for further assistance.

Further guidance can also be found in the **additional user information** section of this manual on pages 62 - 63 in the 'understanding the beeps' table.

General Information

FIRMWARE REVISION

DATE	FIRMWARE VERSION	REVISION
04/02/24	VER MD120r0	Launch of the 4G GSM interface module compatible for both VX2200 and VX2300 digital systems: Art.2870 , includes all the features of the Art.2270/4G GSM interface.
17/07/24	VER MD120r1	Firmware update to include ENC feature (1111ENCnnn), enable/disable the GSM module to work with a CST2310 concierge station when the GSM is setup in VX2300 mode.

FURTHER READING

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

- **GSMSK_66251720-EN_V2-3** (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**.

For all other VX2200 system components (e.g. audiophones, videophones and intercom panels etc.) further setup and programming details can be found in any accompanying technical documents that are supplied with the respective system component.

Additional VX2300 system setup and programming information can be found in the following technical manual:

- **67009600-EN Edition 2015 Rev. 1.0** (or later version).

For all other VX2300 system components (e.g. audiophones, videophones and intercom panels etc.) further setup and programming details can be found in any accompanying technical documents that are supplied with the respective system component.

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

- **Art.4850R_66250407-EN_V1-2** (or later).
- **Art.4903_66251800-EN_V1-2 - Rev.0.1** (or later).
- **2813_66251545_V1-1** (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:

- **AN0059_GSMPRO_APP_Program_a_Call_Button**.
- **AN0060_GSMPRO_APP_Initial_Setup**.
- **AN0061_GSMPRO_APP_Proximity**.
- **AN0062_GSMPRO_APP_Dial_To_Open**.
- **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**.
- **AN0067_GSMPRO_APP_Initial_Setup_using_the_GSMSK_and_linking_Events**
- **AN0068_GSMPRO_APP_Initial_Setup_and_Uploading_a_DAT_File**
- **AN0069_GSMPRO_APP_Initial_Setup_and_Linking_DAT_File_from_the_Cloud**

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.

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dashed lines, providing a guide for letter height and placement. The lines are evenly spaced across the entire page, which is otherwise blank.

ENG DISPOSAL

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

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

**ITA SMALTIMENTO**

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

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

L'adeguata raccolta differenziata dei RAEE contribuisce al loro riutilizzo, riciclaggio e recupero ed evita potenziali effetti negativi sull'ambiente e sulla salute umana dovuti alla eventuale presenza di sostanze pericolose al loro interno.

FRA ÉLIMINATION

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

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

SPA ELIMINACIÓN

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

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

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

NLD VERWIJDERING

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

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

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 eletrônicos (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.

MANUFACTURER FABBRICANTE FABRICANT FABRICANTE FABRIKANT FABRICANTE الشركة المصنعة	VIDEX ELECTRONICS S.P.A. Via del Lavoro, 1 63846 Monte Giberto (FM) Italy Tel (+39) 0734 631669 Fax (+39) 0734 632475 www.videx.it - info@videx.it	
CUSTOMER SUPPORT SUPPORTO CLIENTI SUPPORTS CLIENTS ATENCIÓN AL CLIENTE KLANTENDIENST APOIO AO CLIENTE خدمة العملاء	VIDEX ELECTRONICS S.P.A. www.videx.it technical@videx.it Tel: +39 0734-631669 Fax: +39 0734-632475	UK Customers only: VIDEX SECURITY LTD www.videxuk.com Tech Line: 0191 224 3174 tech@videxuk.com

Portugal office:
VX IBÉRIA, UNIPESSOAL LDA
 Rua Tenente Mário Grilo, 26 D, E, F
 4200-397 Porto
 Phone: (+351) 221 124 531
 www.videx.it
 comercial@videx.it

Singapore office:
VIDEX ASIA PACIFIC PTE LTD
 31 Woodlands Close
 #06-37 Woodlands Horizon
 Singapore 737855
 Phone: (+65) 81898912
 commercial@videx.it

Main UK office:
VIDEX SECURITY LTD
 1 Osprey Trinity Park
 Trinity Way
 LONDON E4 8TD
 Phone: (+44) 0370 300 1240
 www.videxuk.com
 marketing@videxuk.com

Northern UK office:
VIDEX SECURITY LTD
 Unit 4-7
 Chillingham Industrial Estate
 Chapman Street
 NEWCASTLE UPON TYNE - NE6 2XX
 Tech Line: (+44) 0191 224 3174
 Phone: (+44) 0370 300 1240

Greece office:
VIDEX HELLAS Electronics
 48 Filolaou Str.
 11633 ATHENS
 Phone: (+30) 210 7521028
 (+30) 210 7521998
 Fax: (+30) 210 7560712
 www.videx.gr
 videx@videx.gr

Danish office:
VIDEX DANMARK
 Hammershusgade 15
 DK-2100 COPENHAGEN
 Phone: (+45) 39 29 80 00
 Fax: (+45) 39 27 77 75
 www.videx.dk
 videx@videx.dk

Benelux office:
NESTOR COMPANY NV
 E3 laan, 93
 B-9800 Deinze
 Phone: (+32) 9 380 40 20
 Fax: (+32) 9 380 40 25
 www.nestorcompany.be
 info@nestorcompany.be

Dutch office:
NESTOR COMPANY BV
 Business Center Twente (BCT)
 Grotestraat, 64
 NL-7622 GM Borne
 www.nestorcompany.be
 info@nestorcompany.be



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.

Le produit est marqué CE à preuve de sa conformité et peut être distribué librement à l'intérieur des pays membres de l'union européenne UE.
 Ce produit est conforme aux directives européennes 2014/30/EU (EMC) ; 2014/35/EU (LVD) ; 2011/65/EU (RoHS); marquage CE 93/68/EEC.

Het product heeft de CE-markering om de conformiteit ervan aan te tonen en is bestemd voor distributie binnen de lidstaten van de EU zonder beperkingen. Dit product volgt de bepalingen van de Europese Richtlijnen 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS); CE-markering 93/68/EEG.

يحمل المنتج علامة التوافق الأوروبي CE لإظهار توافقه مع المواصفات ذات الصلة وإمكانية توزيعه في كافة دول الاتحاد الأوروبي بدون أية قيود. يلبي هذا المنتج جميع متطلبات التوجيهات الأوروبية 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS); علامة المطابقة للمواصفات الأوروبية CE 93/68/CEE.

Il prodotto è marchiato CE a dimostrazione della sua conformità e può essere distribuito liberamente all'interno dei paesi membri dell'Unione Europea UE.
 Questo prodotto è conforme alle direttive Europee: 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS); marcatura CE 93/68/EEC.

El producto lleva la marca CE que demuestra su conformidad y puede ser distribuido en todos los estados miembros de la unión europea UE.
 Este producto cumple con las Directivas Europeas 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS); marca CE 93/68/EEC.

O produto tem a marca CE que demonstra a sua conformidade e destina-se a distribuição em todos os estados membros da UE, sem restrições. Este produto segue as disposições das Diretivas Europeas 2014/30/UE (EMC); 2014/35/UE (LVD); 2011/65/UE (RoHS); marcação CE 93/68/CEE.



66252130-4G-EN