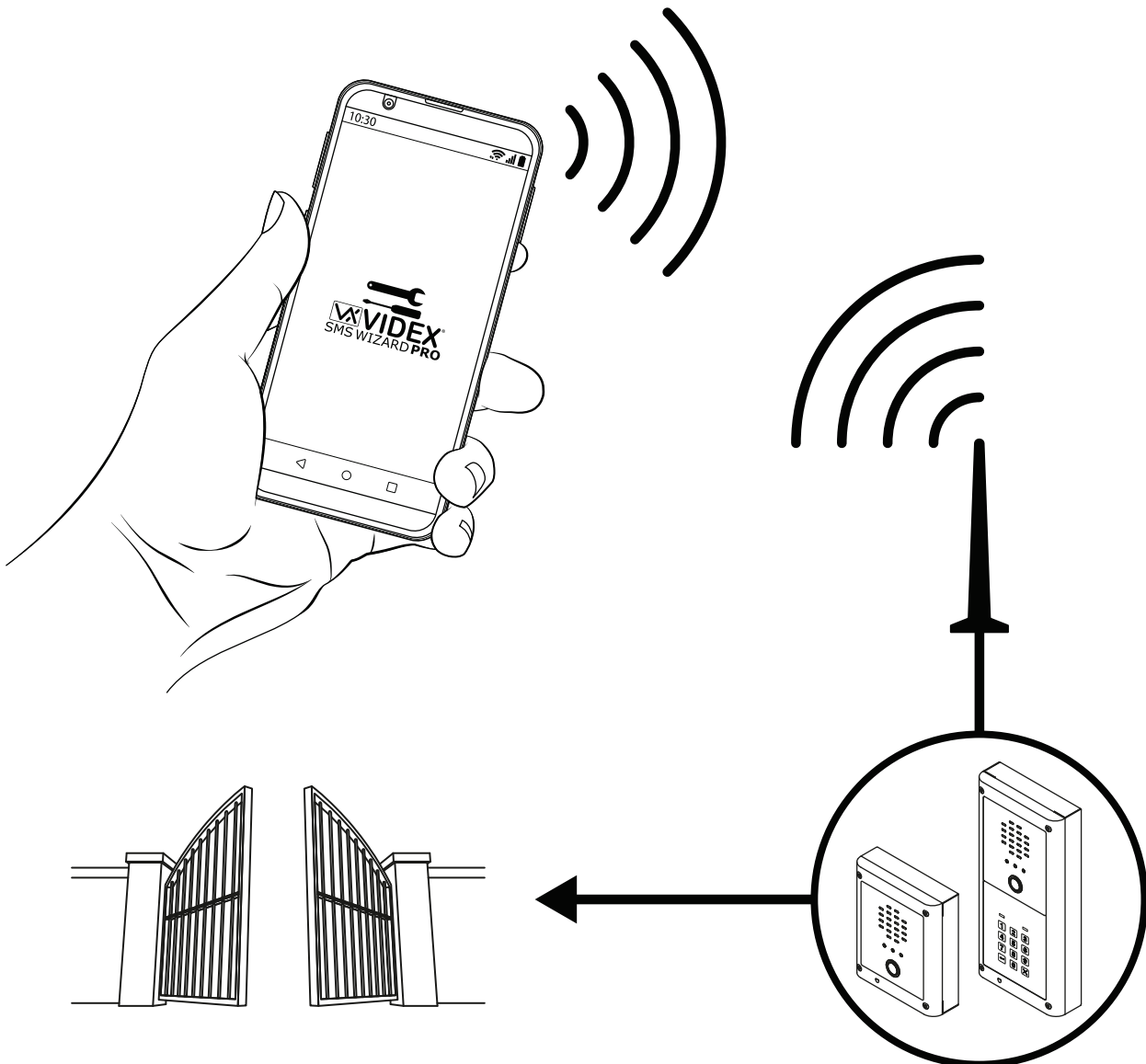**VIDEX**®
THE POWER TO SECURE

4G VR GSM AUDIO INTERCOM KIT

4000 Series Vandal Resistant GSM Audio Intercom
with Proximity Facility

GSMVRK/4G
GSMVRKC/4G

4G

Technical Manual

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

Declaration of Conformity

EU RoHS DECLARATION OF CONFORMITY

4G version

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

RE Directive 2014/53/EU :

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

⚠

WARNING!

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

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

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

DECLARATION OF RESPONSIBILITY

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

MANUFACTURER

VⅩVIDEX®
THE POWER TO SECURE

ISO 9001 SGS
Cert. N. IT05/1217

made in **ITALY**

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CE 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.

UKCA 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

MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the 4000 series vandal resistant 4G GSM audio intercom system. This manual should be read carefully before the installation commences. Any damage caused to the equipment due to faulty installation where the information in this manual has not been followed is not the responsibility of VIDEX Security Ltd.

It is recommended that the GSM audio intercom is installed by a competent electrician, security or communications engineer.

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

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

SYSTEM INTRODUCTION

The 4000 series vandal resistant 4G GSM intercom, **Art.150/4G (VR4KGSM/4G)**, 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 enables a call to be made from an entry point (door, gate etc), to any telephone number (mobile or land line). Up to 24 call buttons can be connected to the door panel, each able to call four telephone numbers (if the first is busy or not answered, the call can be diverted to up to three different numbers). Features of the system include:

- Vandal resistant brushed stainless steel (2.5mm thick) front panel for the 4000 series range.
- 24 programmable buttons (each with 4 numbers, 1 primary and 3 diverts).
- A dry contact relay output and push to exit input.
- An open collector auxiliary output (AO) and switched 0V auxiliary input (AI).
- Call progress LED indication.
- Dial to Open facility (this feature enables up to 1000 stored DTO numbers and 32 temporary DTO numbers to dial the GSM intercom, the intercom will not answer these calls, but will activate the door/gate relay without being charged for the call).
- Programmable call button timeband facility (a single timeband only).
- Programmable access control timeband facility (up to 10 timebands).
- Programmable free access timeband facility (up to 10 timebands).
- Up to 10 programmable access levels.
- Automatic time correction features and daylight saving time adjustment.
- Micro USB connection for ease of programming using the **GSMSK** PC software (version 4.1.0.36 or later).
- Wiegand proximity connection feature (allows connection of a Wiegand proximity reader, **Art.VR4KPPM**, to store up to 1000 fobs/cards, these cards when presented to the reader will activate the door/gate).
- **Art.VR4KDM** (UIM138/MODULE) interface connection for additional call progress indication and voice annunciation.
- Includes a facility to remotely program the GSM module 'over the air' using the **GSMSK** PC software without the need to actually connect a PC or laptop directly to the intercom via the USB connection.
- Event logging system that can record up to 4000 events which can be downloaded via the **GSMSK** PC software.
- Remote event logging facility (unlimited events) which can be monitored in real time (refer to notes **user management** on page 62).
- Integrated bootloader function for updating intercom panel firmware via the **GSMSK** PC software.

Programming of the telephone numbers (primary, diverts and dial to open numbers) and additional features including programming key fobs for the Wiegand proximity reader access can be carried out via text messaging (refer to notes **programming the GSM intercom** on pages 33 - 55) or using the **GSMSK** PC software (refer to the manual **GSMSK_66251720-EN_V2-2** or later) by direct USB connection to a PC or remotely via the 'over the air' feature (the PC software can still be used to program the GSM intercom, but the PC is not directly connected to it via the USB connection, further details can be found on pages 51 - 53).

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

SIM CARD SELECTION

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

THE 4G GSM INTERCOM CAN ONLY ACCEPT A NANO SIZE SIM CARD, BOTH A STANDARD SIZE SIM AND MICRO SIM ARE NOT SUITABLE.

12.3mm
8.8mm
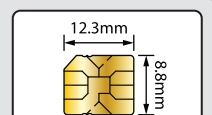
Introduction

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 intercom. This number is located internally on the main hardware chip inside the GSM module. To obtain the IMEI number from the GSM module refer to the programming notes **obtain the GSM's IMEI number** on page 51.

PRECAUTIONARY ADVICE

- When mounting the GSM antenna, choose a location which is away from human interaction and away from the intercom panel. Route the GSM antenna cable from the intercom panel so that it is separate from the power supply cables and microphone wire.

- Always ensure the power is switched **OFF** to the intercom panel before inserting or removing the SIM card.

- New SIM cards will need registering with the network service provider before they can be used. Full details of how this is done can normally be found in the SIM card pack. It will normally require that the SIM card is inserted into a mobile phone, a number dialled and instructions followed. While the SIM is in the mobile phone it would be a good time to disable any PIN codes, call diverts, ring back and disable features such as voicemail and text alerts. Details of how to do this can be found on the SIM card provider's website or by calling their customer services. Recommended SIM card providers are: **Vodafone**, **Three**, **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).

- 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 intercom panel. For other network providers the SIM card must be removed from the intercom panel, inserted into a mobile phone and the mobile phone menu instructions followed. This procedure may vary between network providers of different countries, therefore we suggest contacting your provider for more information regarding this.

- When storing the GSM intercom panel's telephone number in your own mobile phone avoid using an obvious name such as 'Front Door', or 'My Gate' as this would make it easy to decipher if your phone was lost or stolen.

- The PIN request feature must be disabled on the SIM card before using it in the GSM intercom panel. It is likely on a new SIM card that it will not be enabled but if it is, it will prevent the system from working at all.

- This product may not be suitable for installation in hospitals, health care facilities or in the presence of flammable gases or liquids. Seek advice and authorisation before installing this product in these locations. **This product is not designed to be used as an emergency call point.**

> ⚠ **IMPORTANT: ALL NETWORK PROVIDER AND SERVICES CONFIGURATION CODES MENTIONED IN THIS MANUAL ARE SPECIFIC FOR THE UK ONLY. FOR OVERSEAS CUSTOMERS PLEASE CONTACT THE NETWORK PROVIDER OF YOUR COUNTRY FOR THE CORRESPONDING CODES, HOWEVER VIDEX OFFERS <u>NO GUARANTEE</u> THAT ANY ADDITIONAL CODES WILL WORK.**

IMPORTANT NOTE ABOUT THE SIM

When selecting the SIM with the chosen network provider it is recommended that it is setup with a suitable call allowance and text messages (most UK network providers offer unlimited calls and texts) and also a sufficient data plan. You will need to contact the network provider directly or visit their website to set this up.

> ⚠ **IMPORTANT NOTE: THE SERVICES MENTIONED ABOVE ARE NOT PROVIDED BY VIDEX ELECTRONICS S.P.A. OR VIDEX SECURITY LTD.**
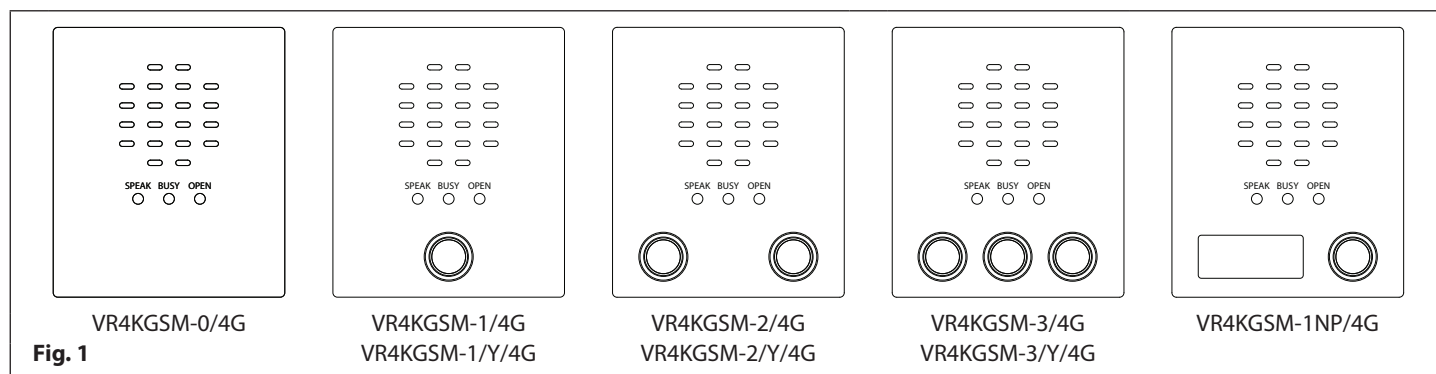
System Components and Available Versions

DESCRIPTION

A system comprises of an intercom panel, power supply, SIM card (SIM card not provided by Videx) and antenna. The intercom panel is part of the Videx 4000 series vandal resistant modular design allowing it to be customised to the installation requirements for example including coded access or including the correct number of call buttons (up to 24 call buttons).

The 4000 series vandal resistant GSM intercom module is fully compatible with the 4000 series range of flush (**Art.4851**, **Art.4852** and **Art.4853**) and surface (**Art.4881**, **Art.4882**, **Art.4883**, **Art.4884**, **Art.4886** and **Art.4889**) back boxes and also the 4000 series flush rainshields (**Art.4871**, **Art.4872**, **Art.4873**, **Art.4874**, **Art.4876** and **Art.4879**) and surface rainshields (**Art.4891**, **Art.4892**, **Art.4893**, **Art.4894**, **Art.4896** and **Art.4899**).
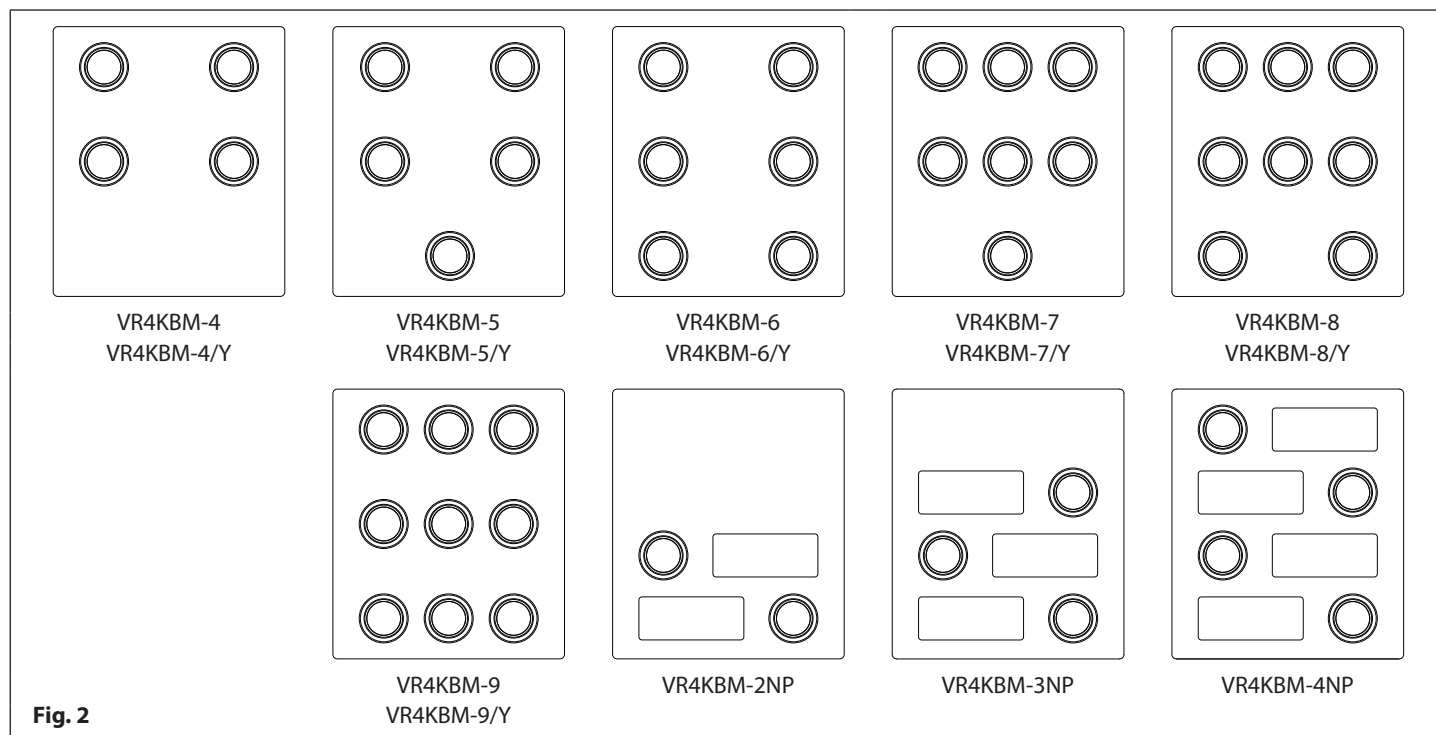
ART. VR4KGSM/4G (ART. 150/4G) INTERCOM AVAILABLE VERSIONS

The intercom panel can include any of the modules from the 4000 series vandal resistant range and uses the standard 4000 series surface and flush mounting frames. The GSM module is however essential and includes all the GSM communication electronics, SIM card (supplied separately) and connections. The intercom module is available in a 0 button, 1 button, 2 button, 3 button and 1 button with nameplate configuration, as shown in **Fig.1**, along with their part numbers.

| VR4KGSM-0/4G | VR4KGSM-1/4G VR4KGSM-1/Y/4G | VR4KGSM-2/4G VR4KGSM-2/Y/4G | VR4KGSM-3/4G VR4KGSM-3/Y/4G | VR4KGSM-1NP/4G |

Fig. 1

EXTENSION BUTTON MODULES

The GSM intercom module can connect up to 24 call buttons. Any of the standard 4000 series vandal resistant button modules can be used, as shown in **Fig.2,** along with their part numbers.

| VR4KBM-4 VR4KBM-4/Y | VR4KBM-5 VR4KBM-5/Y | VR4KBM-6 VR4KBM-6/Y | VR4KBM-7 VR4KBM-7/Y | VR4KBM-8 VR4KBM-8/Y |

| VR4KBM-9 VR4KBM-9/Y | VR4KBM-2NP | VR4KBM-3NP | VR4KBM-4NP |

Fig. 2

Button connections to the GSM module are shown in **Fig.3** on page 7 (only the wiring of the button harness is shown). It is important to take care when using additional button modules with a GSM intercom module which also has onboard buttons. For example, an intercom module with one button, **VR4KGSM-1/4G**, means the extension button module used must start wiring from button 2 on the button harness (the green "b" and white "1" wires would be used), an intercom module with 2 buttons, **VR4KGSM-2/4G**, means the extension button module used must start wiring from button 3 on the button harness (the blue "c" and white "1" wires would be used) and so on.
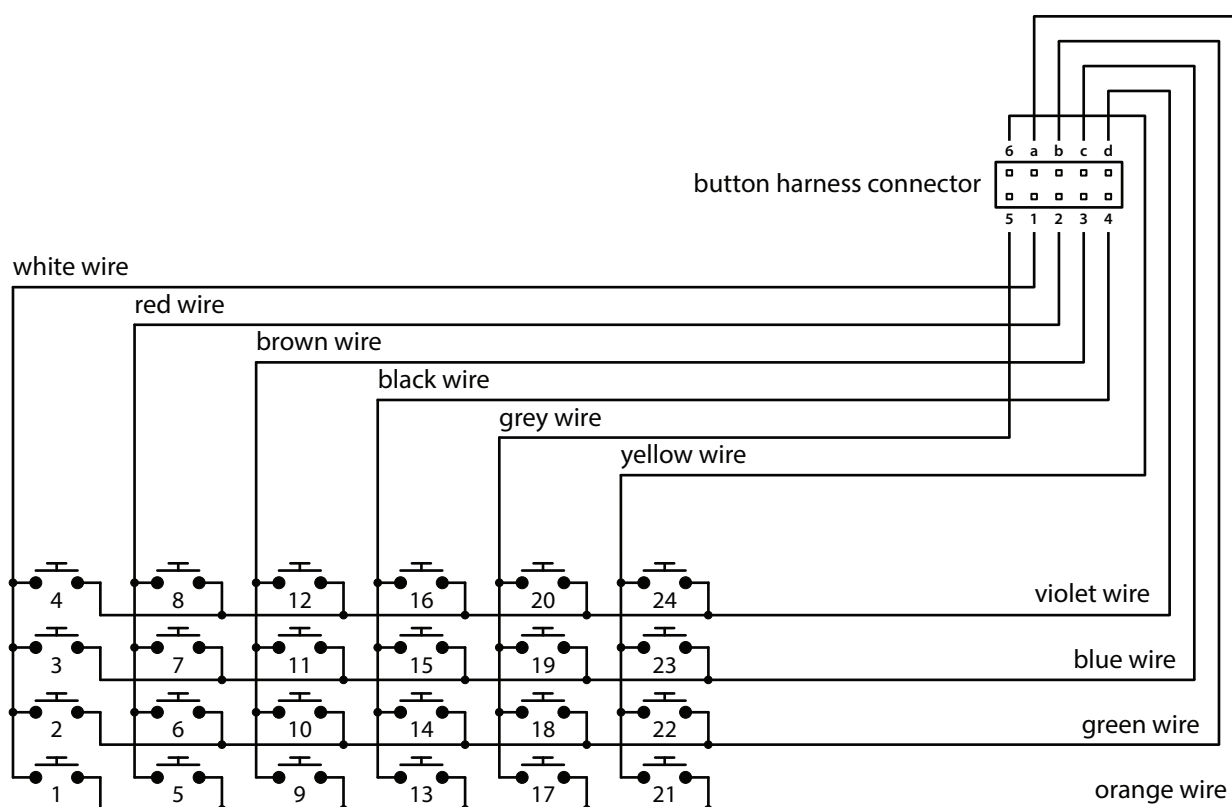
BUTTON HARNESS WIRING

Fig. 3

BUTTON MODULE NOTES

If the GSM module has 1 button, **VR4KGSM-1/4G**, the additional button module buttons should be wired starting from button number 2 (i.e. the first button of the button module should be connected using the green "b" and white "1" wires, the next button using the blue "c" and white "1" wires etc.).

If the GSM module has 2 buttons, **VR4KGSM-2/4G**, the additional button module buttons should be wired starting from button number 3 (i.e. the first button of the button module should be connected using the blue "c" and white "1" wires, the next button using the violet "d" and white "1" wires etc.).

If the GSM module has 3 buttons, **VR4KGSM-3/4G**, the additional button module buttons should be wired starting from button number 4 (i.e. the first button of the button module should be connected using the violet "d" and white "1" wires, the next button using the orange "a" and pink "2" wires etc.).
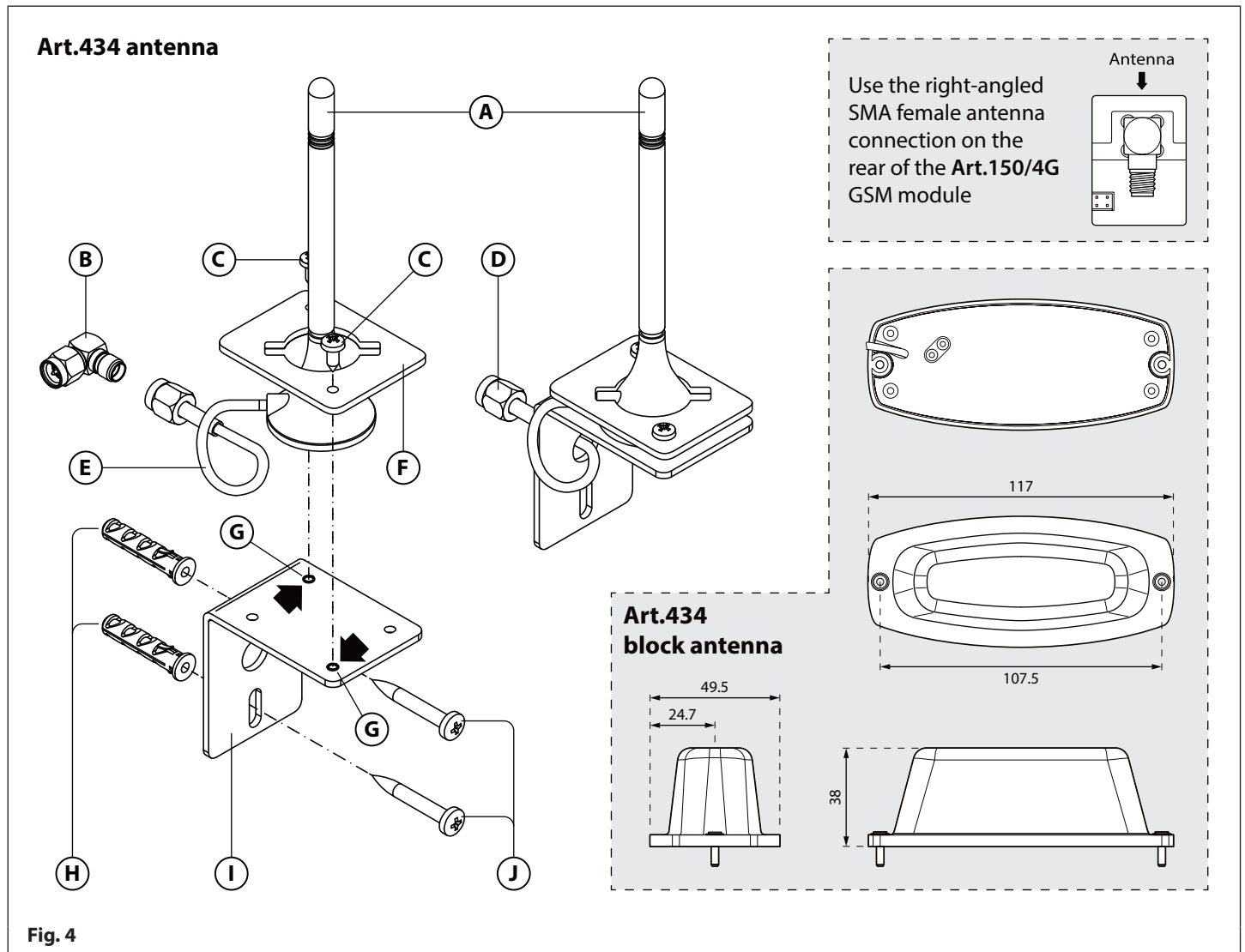
The button harness table below can also be used to determine the required button module wiring.

Button No.	Harness Connector Pins	Wire Colours	Button No.	Harness Connector Pins	Wire Colours
1	a - 1	orange / white	13	a - 4	orange / black
2	b - 1	green / white	14	b - 4	green / black
3	c - 1	blue / white	15	c - 4	blue / black
4	d - 1	violet / white	16	d - 4	violet / black
5	a - 2	orange / red	17	a - 5	orange / grey
6	b - 2	green / red	18	b - 5	green / grey
7	c - 2	blue / red	19	c - 5	blue / grey
8	d - 2	violet / red	20	d - 5	violet / grey
9	a - 3	orange / brown	21	a - 6	orange / yellow
10	b - 3	green / brown	22	b - 6	green / yellow
11	c - 3	blue / brown	23	c - 6	blue / yellow
12	d - 3	violet / brown	24	d - 6	violet / yellow

ART. 434 GSM ANTENNA & ART. 434 BLOCK ANTENNA

The **Art.434 GSM antenna**, **Fig.4,** connects to the SMA female bulkhead connection on the rear of the 4G GSM module, see **Fig.4** inset. A GSM antenna with an SMA male connector should be used. Also available to use with both the **GSM4K/4G** and **GSM4KCR/4G** series audiokits is the **Art.434 block antenna**, **Fig.4** inset.

Art.434 antenna

Use the right-angled SMA female antenna connection on the rear of the **Art.150/4G** GSM module

Antenna

Art.434 block antenna

117
107.5
49.5
24.7
38

Fig. 4

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.4** (B), CAN BE USED TO HELP REROUTE THE CABLE DOWN THE BACK SIDE OF THE GSM MODULE.

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

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

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

The **Art.HDR15-12**, **Fig.5**, is a DIN rail mount slim line power supply that is supplied with both the **GSMVRK/4G** and **GSMVRKC/4G** series audiokits.

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

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

Fig. 5
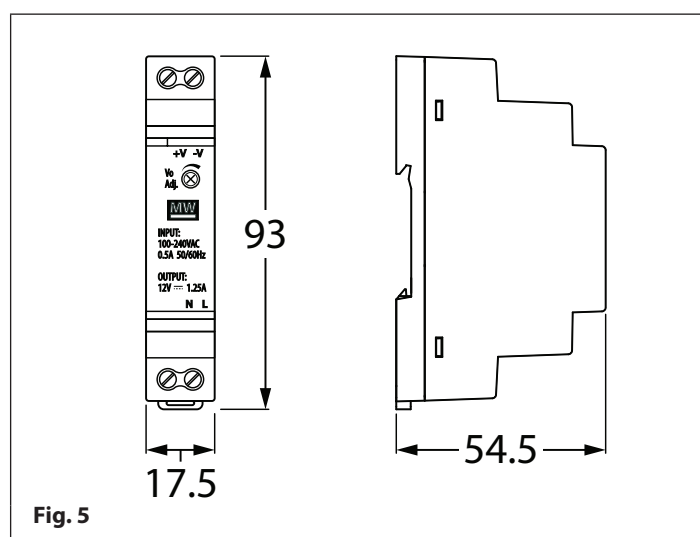
SPECIFICATION

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

ELECTRICAL DATA

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

ART. VR4901 CODELOCK
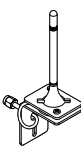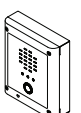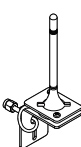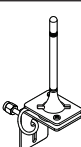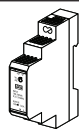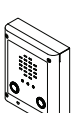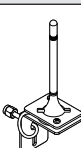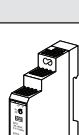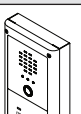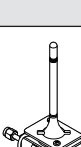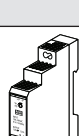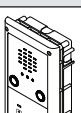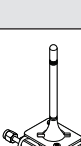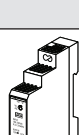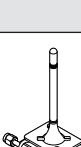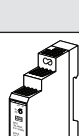
The **VR4901** codelock module (included as part of the **GSMVRKC-n/4G** and **GSMVRKC-nS/4G** kits) can be powered from 12-24V AC or DC and includes 3 dry contact relay outputs and two switched 0V push to exit inputs which can be used to trigger relay 1 & 2.

One code per relay can be programmed into the device. Codes can be between 4 - 8 digits long.

The relay time can be 01 - 99 seconds or set for latching (00). When in latching mode, enter the code followed by **ENTER** ⏎ to latch the relay and the code followed by **CLEAR** ⊠ to unlatch the relay.

More details can be found on pages 14 - 16.

VANDAL RESISTANT GSM INTERCOM AUDIO KITS

ONE WAY VERSIONS

GSMVRK-1/4G - flush mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-1/4G: 1 button VR GSM unit 1 Art. 4851: Flush mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

GSMVRK-1S/4G - surface mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-1/4G: 1 button VR GSM unit 1 Art. 4881: Surface mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

TWO WAY VERSIONS

GSMVRK-2/4G - flush mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-2/4G: 2 button VR GSM unit 1 Art. 4851: Flush mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

GSMVRK-2S/4G - surface mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-2/4G: 2 button VR GSM unit 1 Art. 4881: Surface mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

ONE WAY VERSIONS

GSMVRKC-1/4G - flush mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-1/4G: 1 button VR GSM unit 1 Art. VR4901: VR4K series codelock 1 Art. 4852: Flush mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

GSMVRKC-1S/4G - surface mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-1/4G: 1 button VR GSM unit1 Art. VR4901: VR4K series codelock 1 Art. 4882: Surface mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

TWO WAY VERSIONS

GSMVRKC-2/4G - flush mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-2/4G: 2 button VR GSM unit 1 Art. VR4901: VR4K series codelock 1 Art. 4852: Flush mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

GSMVRKC-2S/4G - surface mounting

1 Outdoor station composed of:	**1 GSM antenna**	**1 Power supply**
1 Art. VR4KGSM-2/4G: 2 button VR GSM unit 1 Art. VR4901: VR4K series codelock 1 Art. 4882: Surface mounting box	Art. 434	HDR-15-12 12Vdc 1.25A

System Components and Available Versions

GSMVRK 4G AUDIO KITS

Additional **GSMVRK-n/4G** (flush) kit versions available from 3 way kits up to 12 way kits: **GSMVRK-3/4G** to **GSMVRK-12/4G**. Each audio kit comes with the appropriate **VR4KGSM (Art.150/4G)** module, appropriate extension button module(s) and appropriate flush back box depending on the **GSMVRK-n/4G** kit required (where n = the number of call buttons), refer to table below.

Additional **GSMVRK-nS/4G** (surface) kit versions available from 3 way kits up to 12 way kits: **GSMVRK-3S/4G** to **GSMVRK-12S/4G**. Each audio kit comes with the appropriate **VR4KGSM (Art.150/4G)** module, appropriate extension button module(s) and appropriate surface back box depending on the **GSMVRK-nS/4G** kit required (where n = the number of call buttons), refer to table below.

	Kit No.	Outdoor station composed of:		Kit No.	Outdoor station composed of:
FLUSH	GSMVRK-3/4G	1 Art.VR4KGSM-3/4G; 1 Art.4851	**SURFACE**	GSMVRK-3S/4G	1 Art.VR4KGSM-3/4G; 1 Art.4881
	GSMVRK-4/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-4; 1 Art.4852		GSMVRK-4S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-4; 1 Art.4882
	GSMVRK-5/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-5; 1 Art.4852		GSMVRK-5S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-5; 1 Art.4882
	GSMVRK-6/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-6; 1 Art.4852		GSMVRK-6S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-6; 1 Art.4882
	GSMVRK-7/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-7; 1 Art.4852		GSMVRK-7S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-7; 1 Art.4882
	GSMVRK-8/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-8; 1 Art.4852		GSMVRK-8S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-8; 1 Art.4882
	GSMVRK-9/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-9S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-10/4G	1 Art.VR4KGSM-1/4G; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-10S/4G	1 Art.VR4KGSM-1/4G; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-11/4G	1 Art.VR4KGSM-2/4G; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-11S/4G	1 Art.VR4KGSM-2/4G; 1 Art.VR4KBM-9; 1 Art.4882
	GSMVRK-12/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4KBM-9; 1 Art.4852		GSMVRK-12S/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4KBM-9; 1 Art.4882

GSMVRKC 4G AUDIO KITS

Additional **GSMVRKC-n/4G** (flush) kit versions available from 3 way kits up to 12 way kits: **GSMVRKC-3/4G** to **GSMVRKC-12/4G**. Each audio kit comes with the appropriate **VR4KGSM (Art.150/4G)** module, appropriate extension button module(s), **VR4901** codelock module and appropriate flush back box depending on the **GSMVRKC-n/4G** kit required (where n = the number of call buttons), refer to table below.

Additional **GSMVRKC-nS/4G** (surface) kit versions available from 3 way kits up to 12 way kits: **GSMVRKC-3S** to **GSMVRKC-12S**. Each audio kit comes with the appropriate **VR4KGSM (Art.150/4G)** module, appropriate extension button module(s), **VR4901** codelock module and appropriate surface back box depending on the **GSMVRKC-nS/4G** kit required (where n = the number of call buttons), refer to table below.

	Kit No.	Outdoor station composed of:		Kit No.	Outdoor station composed of:
FLUSH	GSMVRKC-3/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4901; 1 Art.4852	**SURFACE**	GSMVRKC-3S/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4901; 1 Art.4882
	GSMVRKC-4/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-4; 1 Art.VR4901; 1 Art.4853		GSMVRKC-4S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-4; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-5/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-5; 1 Art.VR4901; 1 Art.4853		GSMVRKC-5S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-5; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-6/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-6; 1 Art.VR4901; 1 Art.4853		GSMVRKC-6S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-6; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-7/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-7; 1 Art.VR4901; 1 Art.4853		GSMVRKC-7S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-7; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-8/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-8; 1 Art.VR4901; 1 Art.4853		GSMVRKC-8S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-8; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-9/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4853		GSMVRKC-9S/4G	1 Art.VR4KGSM-0/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-10/4G	1 Art.VR4KGSM-1/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4853		GSMVRKC-10S/4G	1 Art.VR4KGSM-1/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-11/4G	1 Art.VR4KGSM-2/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4853		GSMVRKC-11S/4G	1 Art.VR4KGSM-2/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4883
	GSMVRKC-12/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4853		GSMVRKC-12S/4G	1 Art.VR4KGSM-3/4G; 1 Art.VR4KBM-9; 1 Art.VR4901; 1 Art.4883

All GSM audiokits listed above are supplied with the appropriate flush or surface back box, an HDR-15-12 12Vdc, 1.25A slim line power supply vand an Art.434 antenna.

Art. VR4KGSM/4G Technical Information

VIDEX®
THE POWER TO SECURE

ART. VR4KGSM/4G (150/4G) MODULE
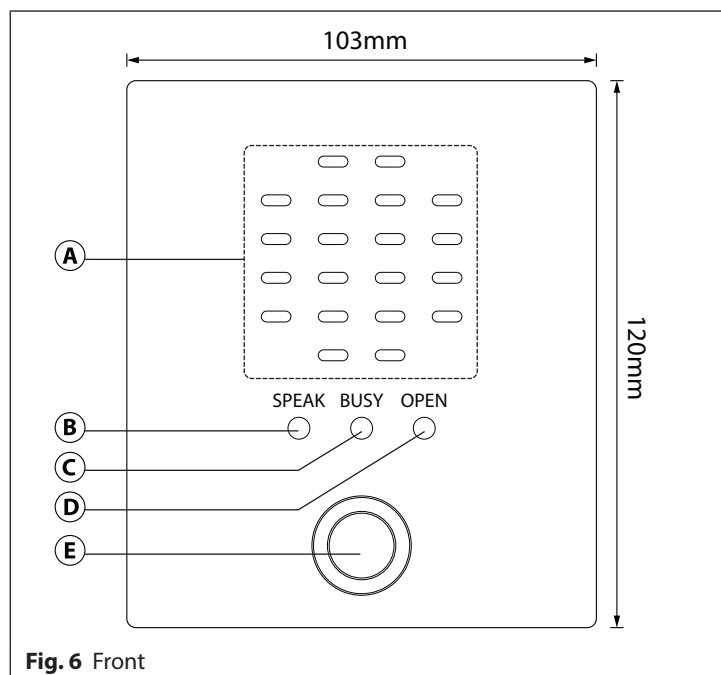
Fig. 6 Front

Fig. 7 Back

LEGEND
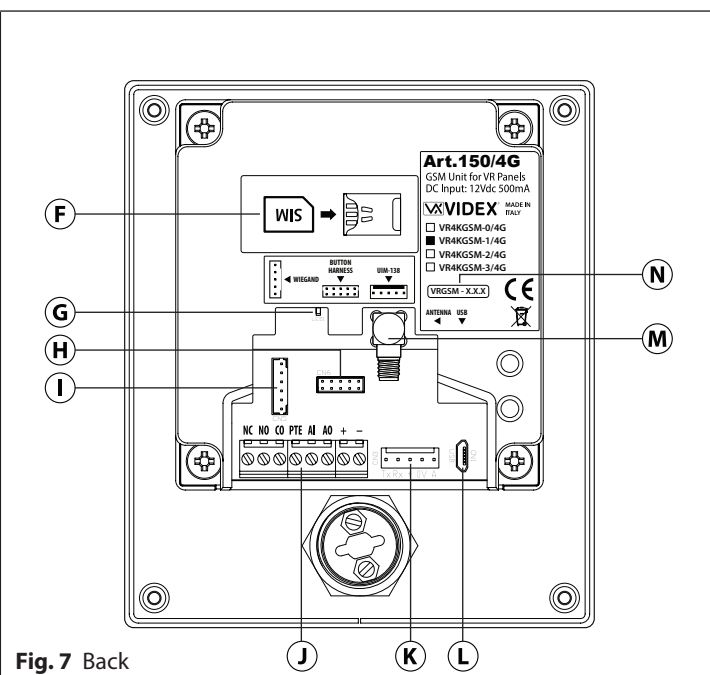
- (A) Intercom speaker
- (B) Speak (yellow) call progress LED
- (C) Busy (red) call progress LED
- (D) Door Open (green) call progress LED
- (E) Vandal resistant call button
- (F) SIM card holder (for 12.3mm x 8.8mm nano SIM)
- (G) Power & network (**2G**, **3G** or **4G**) status indication LED

- (H) Button harness connection, CN6
- (I) Wiegand reader connection (**VR4KPPM**), CN5
- (J) Terminal connections
- (K) Display harness interface connection (**VR4KDM**), CN3
- (L) Micro USB connection, CN1
- (M) SMA Antenna connection
- (N) Current firmware version (**VRGSM-4G X.X.X**)

TERMINAL CONNECTIONS AND HARNESS CONNECTIONS

Terminal	Description		
NC	Normally oclosed relay contact.	Relay contacts: 3A@24Vdc 3A@120Vac	
NO	Normally open relay contact.		
CO	Common relay contact.		
PTE	Push to exit input (switched 0V).		
AI	Auxiliary input (switched 0V).		
AO	Auxiliary output (open collector, 150mA max.)		
+	+12Vdc power input (500mA max.)		
–	0V ground power.		
USB	Micro USB connection (CN1). For connection see **Fig.25**, page 24.		
UIM-138	Display interface harness connection (CN3). For connection see **Fig.14**, page 18.		
Wiegand	Wiegand proximity reader harness connection (CN5). For connection see **Fig.16**, page 19.		
Button Harness	Pre-wired button harness connection (CN6). Refer to **Fig.3** and button harness table on page 7 for wiring colour codes and button configurations.		

USB CONNECTION (CN1)

The micro-USB connection (**Fig.7**, (L)) allows the **VR4KGSM/4G** module to be connected to a laptop/PC for ease of programming (refer to page 24 for connecting the GSM module to a laptop/PC). Further information on programming using the GSMSK PC software can be found in the following manual **GSMSK_66251720-EN_V2-2** (or later).

UIM-138 (DISPLAY HARNESS INTERFACE CONNECTION, CN3)

The UIM-138 connection (**Fig.7**, (K)) allows the **VR4KGSM/4G** module to be connected to the display interface module, the **VR4KDM**, see **Fig.14**, page 18 for connecting the GSM module to a **VR4KDM** module.

WIEGAND (WIEGAND PROXIMITY READER HARNESS CONNECTION, CN5)

The Wiegand connection (**Fig.7**, Ⓘ) allows for a Wiegand proximity reader, the **VR4KPPM**, to be connected to the **VR4KGSM/4G** module, see **Fig.16**, page 19. Further information on programming proximity fobs/cards can be found on pages 46 - 48 of this manual.

BUTTON HARNESS CONNECTIONS (CN6)

The button harness connection (**Fig.7**, Ⓗ) allows for the pre-wired button harness to be connected directly to any onboard VR buttons on the **VR4KGSM/4G** module and/or **VR4K series** button modules (described on pages 6 and 7). For complete button harness wiring refer to **Fig.3** and the button harness table on page 7.

CALL PROGRESS LED'S

LED *(sign)*	Description
◯ SPEAK (Yellow)	The speak LED (**Fig.6**, Ⓑ) when illuminated, indicates that it is possible to speak because the call has been answered or a call made to the GSM intercom (with the exception of a call from a dial to open (**DTO**) number). The LED will switch OFF at the end of a conversation when the telephone/mobile that has been dialled hangs up or at the end of the call time (**SPT**).
◯ BUSY (Red)	The busy LED (**Fig.6**, Ⓒ) when illuminated, indicates that it is not possible to make a call because a call or a conversation is in progress. The LED will be OFF when the system is in standby. If there is power on the GSM intercom and the Art.434 antenna is not connected this LED will flash continuously until the antenna is connected. The LED will flash while connecting to a network and continue to flash until it has found the network.
◯ OPEN (Green)	The open LED (**Fig.6**, Ⓓ) when illuminated, indicates that the door lock (GSM relay) has been operated. It will switch OFF at the end of the programmed "door opening" time. The LED will also illuminate and operate the relay (for the programmed relay, **RLT**, time) if a programmed key fob is presented to an off board Wiegand proximity reader that is connected to the Wiegand reader input connections.

TECHNICAL SPECIFICATION

Working Voltage:	12Vdc +/- 10%
Standby Current:	approx. 60mA
Max. Current:	approx. 500mA (max.)
Call Buttons:	up to 24 (max.)
Telephone Numbers per Button:	4 telephone numbers (1 primary, 3 diverts)
Dial to Open Numbers:	up to 1000 permanent DTO's (max.) and 32 temporary DTO's
Wiegand Proximity Connection:	1, for connection of a Wiegand proximity reader the **Art.VR4KPPM**
Proximity Access (fobs/cards):	up to 1000 users (max.) when connected to Wiegand reader
Call Progress LED's:	3 (speak, busy and open)
Programming Method:	SMS messaging, **GSMSK** PC software including the **'over the air'** feature or GSM mobile apps - the **Videx SMS Wizard** (for users) or the **Videx SMS Wizard PRO** (for installers/engineers)
Push to Exit:	1 (switched 0V across terminals PTE/-)
Auxiliary Inputs:	1 (switched 0V across terminals AI/-)
Auxiliary Outputs:	1 (AO, open collector output, switched 0V, 150mA max.)
Dry Contact Relay:	1, 3A @ 24Vdc, 3A @ 120Vac
Event Logging:	up to 4000 events (unlimited when using remote logging facility)
USB Port:	micro USB
Display Interface Connection:	1, for connection of the **Art.VR4KDM** (UIM-138) display interface module
Timebands:	1 programmable call button timeband, 10 access control and 10 free access timebands
Access Levels:	10, (0 - 9), which can be assigned to the permanent DTO numbers and Proximity fobs/cards
Dimensions:	103mm (W) x 120mm (L) x 37mm (D)
Working Temperature:	-20 +60ºC

ART. VR4901 CODELOCK MODULE
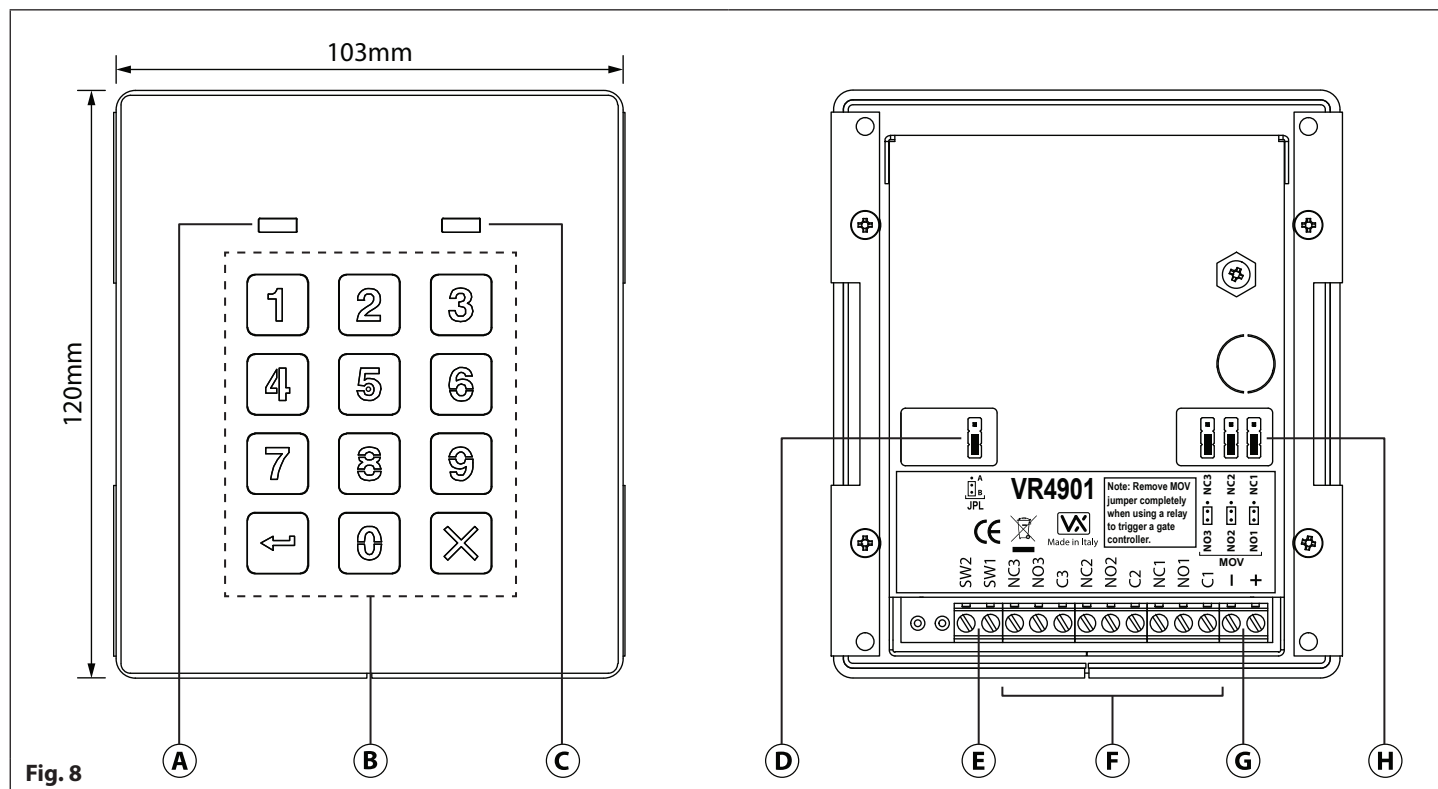
Fig. 8

DESCRIPTION

The codelock module, **Fig.8**, features 12 stainless steel buttons, backlit in blue (keys **0** - **9**, **ENTER** and **CLEAR**), 2 LED's for progress information during use and programming. With three integral relays (**RLY1**, **RLY2** and **RLY3**) each with **C**, **NO** and **NC** connections and two switched 0V push to exit inputs (**SW1** and **SW2**) to enable the external triggering of relays 1 and 2 only.

Key presses are signalled both acoustically and visually, while each button press has a tactile feel. Entering the correct code followed by **ENTER** will activate the relevant relay. Programming is carried out through the same keypad following a simple programming menu (refer to programming flowchart on page 16).

LEGEND

- (A) Accept LED (green)
- (B) Key buttons (**0** - **9**, **ENTER** and **CLEAR**)
- (C) Program/error LED (red)
- (D) Backlight adjustment jumper (**JPL**)
- (E) PTE terminals (**SW1** and **SW2**)
- (F) Relay terminals (**RLY1**, **RLY2** and **RLY3**)
- (G) Power input terminals (+ / -)
- (H) Back EMF protection jumpers

RELAY BUILT-IN BACK EMF PROTECTION JUMPERS

The codelock includes selectable back EMF protection (metal oxide varistors) jumpers for each relay (marked MOV) and are used to select the protection type.

When using a fail secure lock with connections **C** & **NO** the jumper should be in the **NO** position for the selected relay (**RLY1**, **RLY3** or **RLY3**).

When using a fail open (safe) lock with connections **C** & **NC** the jumper should be in the **NC** position for the selected relay (**RLY1**, **RLY3** or **RLY3**).

When using the codelock to trigger a gate controller or another third party controller the respective jumper should be removed completely (this disables the protection on the relay), as shown in **Fig.9**.

| **NO** position for fail secure lock release | **NC** position for fail safe lock release | remove jumpers for gate controls |

Fig. 9

PROGRAMMING THE KEYPAD

All programming is carried out using the keypad. The programming menu is protected by an **ENGINEER'S CODE**, the factory default of which is 6x1 (**"111111"**). This code can be changed to any 4 to 8 digit **ENGINEER'S CODE** during the programming and is used to gain entry to the programming menu only.

Each relay (**RLY1**, **RLY2** and **RLY3**) can be programmed with a 4 - 8 digit access code (one code per relay) and will activate the respective relay for the programmed relay time (01 - 99 seconds or 00 for latching). The access code programmed is stored in the keypads internal memory.

BACK LIGHT ADJUSTMENT JUMPER (JPL)

The jumper JPL (**Fig.8**, Ⓓ) is used to adjust the brightness and determine the operation of the backlit buttons. There are four brightness settings for the backlit buttons and two programming modes (mode 1 and 2) for the jumper.

The two modes that can be programmed change the functionality of the jumper JPL. The table below indicates the programming mode, the position of the jumper and the operation of the backlit buttons.

	Jumper Position		Back light Operation
Mode 1	A (default)	A ▮ B	Back light on low brightness in standby. Full brightness when any buttons are pressed.
Mode 1	B	A ▮ B	Back light OFF in standby. Full brightness when any buttons are pressed.
Mode 2	A or B	A ▮ B or A ▮ B	Back light on full brightness all of the time.
	JPL removed in either Mode	A B	No back light, the back light is completely disabled.

PROGRAMMING MODE 1 (DEFAULT MODE, JPL = A)

Follow the steps below to set the codelock to mode 1:

1. Disconnect the power from the **Art.VR4901** codelock.

2. Short out terminals - and **SW2**.

3. Press and hold down button **1** ⒈ and keep it pressed down while the power is switched back **ON**.

4. When power is restored to the codelock wait for the module to emit a single beep and the red program LED (**Fig.8**, Ⓒ) to flash once.

5. Listen for the confirmation tone and wait for the red program LED (**Fig.8**, Ⓒ) to flash once again.

6. Release button **1** ⒈ and remove the short between terminals - and **SW2**.

7. Set the jumper **JPL** to the desired position.

PROGRAMMING MODE 2

Follow the steps below to set the codelock to mode 2:

1. Disconnect the power from the **Art.VR4901** codelock.

2. Short out terminals - and **SW2**.

3. Press and hold down button **2** ⒉ and keep it pressed down while the power is switched back **ON**.

4. When power is restored to the codelock wait for the module to emit a double beep and the red program LED (**Fig.8**, Ⓒ) to flash once.

5. Listen for the confirmation tone and wait for the red program LED (**Fig.8**, Ⓒ) to flash once again.

6. Release button **2** ⒉ and remove the short between terminals - and **SW2**.

7. Set the jumper JPL to the desired position.

BACK LIGHT AND BUTTON OPERATION

If the back light programming mode is set to mode 1 (with jumper **JPL** in either the **A** or **B** position) when a button is pressed on the keypad the back light will switch to full brightness for approximately 10 seconds.

After this time the back light will either switch **OFF** or switch back to low brightness (depending on the jumper position) unless another button has been pressed within the 10 second period in which case the back light will stay on full brightness for a further 10 seconds.

The exception to this is if the back light programming mode is set to mode 2, i.e. the back light will be on full brightness all of the time or if the jumper is removed the back light will be disabled.

OPERATION

• Type in the programmed access code and press **ENTER** to confirm.

• If the access code is correct, the green accept LED (**Fig.8**, Ⓐ) will illuminate for approx. 2 seconds and the relay that is relevant to the code will operate for the programmed relay time.

• If an incorrect access code is entered, a continuous melody will sound for 4 or more seconds, according to the number of mistakes and the red program/error LED (**Fig.8**, Ⓒ) will illuminate.

OPERATION NOTES

• To operate the relays together, set the same code for each relay;

• If an incorrect code is entered, the system will lock out for 5 seconds which will increase each time an incorrect code is entered. The system will only operate when the correct code is entered.

PROGRAMMING GUIDE

- Enter the **ENGINEER'S CODE**: first time type six times **1** (**111111** factory default) and press **ENTER**(the red LED will illuminate).
- Confirm **ENGINEER'S CODE**: re-type the same code again **or** type a new code (4 to 8 digits) then press **ENTER** (melody).
- Enter the code (4 to 8 digits) to enable **RELAY 1** then press **ENTER** (melody).
- Enter the **RELAY 1** operation time (2 digits 01 to 99, i.e. 05 = 5 seconds, 00 = latch) then press **ENTER** (melody).
- Enter the code (4 to 8 digits) to enable **RELAY 2** then press **ENTER** (melody).
- Enter the **RELAY 2** operation time (2 digits 01 to 99, i.e. 05 = 5 seconds, 00 = latch) then press **ENTER** (melody).
- Enter the code (4 to 8 digits) to enable **RELAY 3** then press **ENTER** (melody).
- Enter the **RELAY 3** operation time (2 digits 01 to 99, i.e. 05 = 5 seconds, 00 = latch) then press **ENTER** (melody).
- The system is ready to use (the red LED will switch **OFF**).

PROGRAMMING NOTES

- Pressing the **ENTER** button twice during the programming process, without changing any parameters, will exit from the programming menu.
- When entering a relay code it must be different from the **ENGINEER'S CODE**.
- To latch the relay type in the access code then press **ENTER** to confirm. To unlatch the relay type in the same access code again then press **CLEAR** to confirm.

RETURN SYSTEM TO PRESET ENGINEER'S FACTORY CODE

- Turn **OFF** the power to the codelock.
- Keep the **ENTER** button pressed while the power is turned back **ON**.
- Release the **ENTER** button.
- The **ENGINEER's CODE** is now reset back to 6x1 (**"111111"**).

Press **ENTER** (red LED **ON**)	ENTER THE "ENGINEER'S CODE"	Press 1 six times "111111" (factory default)
Press **ENTER** (melody)	CONFIRM OR CHANGE "ENGINEER'S CODE"	Press 1 six times "111111" again **or** type new engineer's code (4 to 8 digits)
Press **ENTER** (melody)	ENTER "ACCESS 1 CODE"	Type code to enable relay 1 (4 to 8 digits)
Press **ENTER** (melody)	ENTER "ACCESS 1 TIME"	Two digits (01 to 99) i.e. 05 = 5 seconds, 00 = latching
Press **ENTER** (melody)	ENTER "ACCESS 2 CODE"	Type code to enable relay 2 (4 to 8 digits)
Press **ENTER** (melody)	ENTER "ACCESS 2 TIME"	Two digits (01 to 99) i.e. 05 = 5 seconds, 00 = latching
Press **ENTER** (melody)	ENTER "ACCESS 3 CODE"	Type code to enable relay 3 (4 to 8 digits)
Press **ENTER** (melody)	ENTER "ACCESS 3 TIME"	Two digits (01 to 99) i.e. 05 = 5 seconds, 00 = latching
Press **ENTER** (melody)	SYSTEM READY TO USE	red LED **OFF**

TERMINAL CONNECTIONS

Connection	Description	
+	12-24V AC or DC power input	
-	0V power input	
C1	Relay 1 common connection	
NO1	Relay 1 normally open connection	
NC1	Relay 1 normally closed connection	Relay contacts: 3A @ 24Vac/dc (max)
C2	Relay 2 common connection	
NO2	Relay 2 normally open connection	
NC2	Relay 2 normally closed connection	
C3	Relay 3 common connection	
NO3	Relay 3 normally open connection	
NC3	Relay 3 normally closed connection	
SW1	Switched 0V PTE input to trigger relay 1	
SW2	Switched 0V PTE input to trigger relay 2	
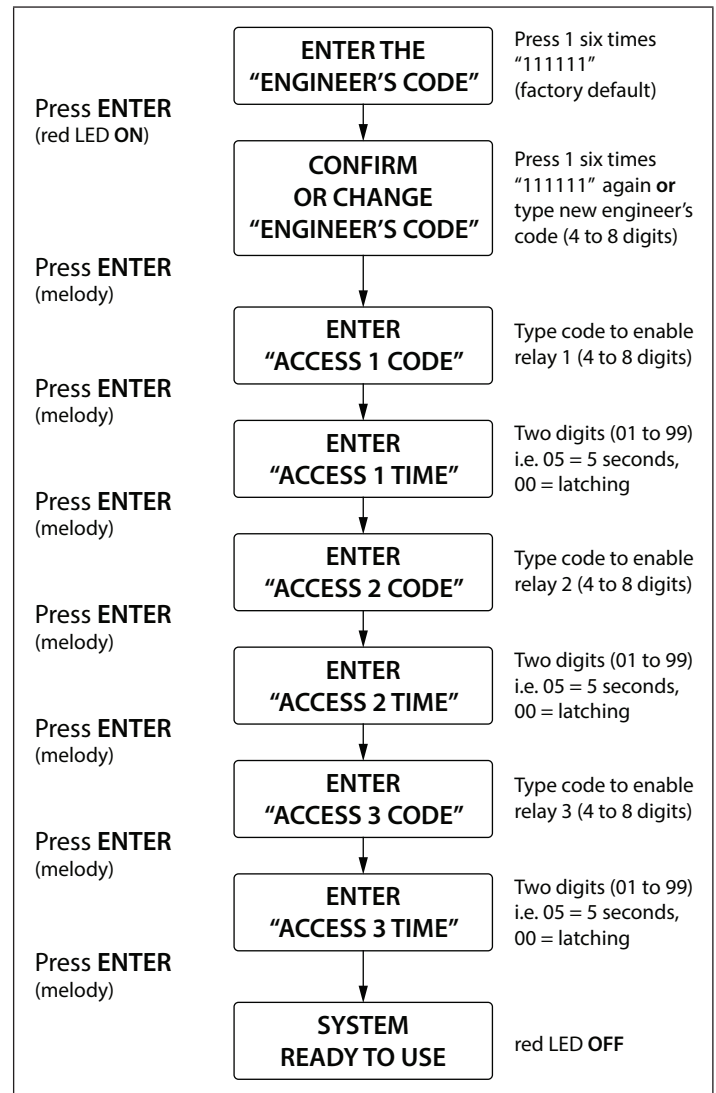
TECHNICAL SPECIFICATION

Working voltage:	12V - 24Vac/dc +/- 10%
Current consumption:	20mA (standby); 70mA (max.)
Number of relays:	3, **RLY1**, **RLY2** & **RLY3** (**C**, **NC** and **NO**)
Relay current⁄voltage:	3A @ 24Vac/dc (max.)
Push to exit inputs:	2, **SW1** and **SW2** (switched 0V)
Back EMF protection:	Yes, 3x MOV jumpers
Number of codes:	3 codes (1 code per relay)
Programming:	Via keypad
Working Temperature:	-10 +50°C

Additional Modules - Art. VR4KDM

ART. VR4KDM (DISPLAY INTERFACE MODULE)
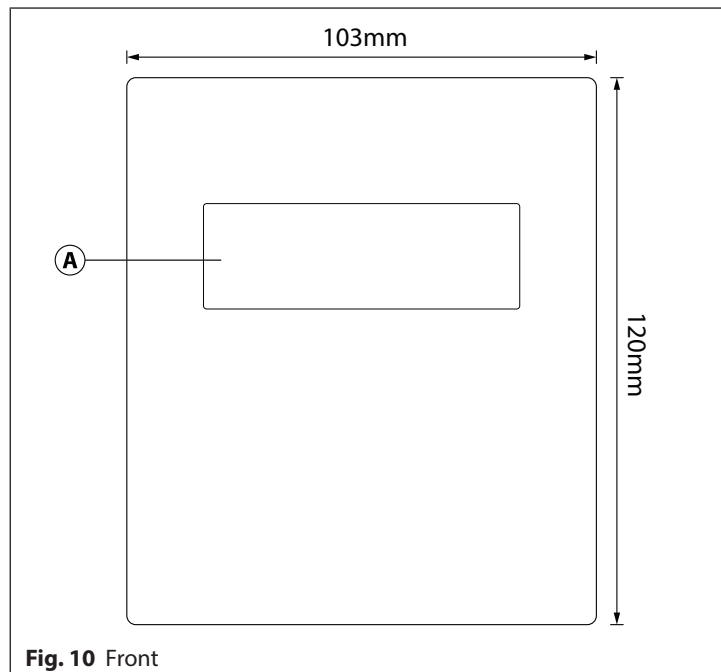
Fig. 10 Front
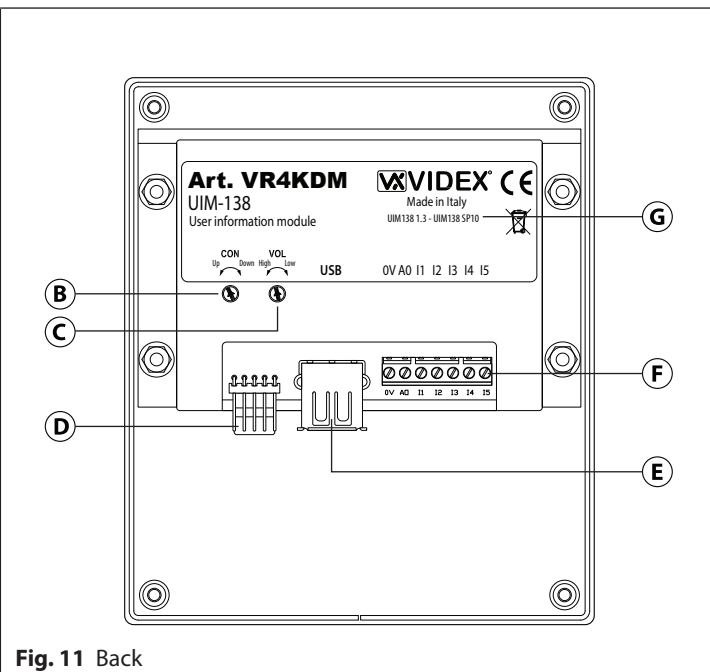
Fig. 11 Back

DESCRIPTION

As mentioned previously on page 13, the **VR4KDM** display interface module (as shown in **Fig.10** and **Fig.11**) can be connected to the GSM module via the 'plug-in' UIM-138 connection (**Fig.11** (D)). The module aids users with disabilities to make the process of calling a number or apartment more user friendly helping comply with the Equality Act 2010.

The **VR4KDM** module has a 2 line 16 character, blue backlit LCD (**Fig.10** (A)) which is protected behind a 6mm lexan window and displays the call progress information whilst also producing spoken call progress messages through the speaker of the GSM module.

LEGEND

(A) 2 line 16 character blue backlit display
(B) Display contrast adjustment
(C) Speech annunciation volume adjustment
(D) UIM-138 harness connection
(E) USB connection
(F) Terminal connections
(G) Current firmware version (**UIM138 X.X**)

Programming of the display module can be carried out using the current **2X00PC programming software** (version 7.0.0.17 or later) allowing user names, apartment numbers and additional displayed messages to be programmed. The **VR4KDM** module connects to the **VR4KGSM/4G** module using the 'plug-in' UIM-138 connection harness and connects to the PC or laptop using a standard USB cable connection (refer to the connection diagram, **Fig.14**, on page 18).

Further programming information can be found in the following technical manual: **UIM-138 Display Module Manual - Technical Manual Edition 1.0.**

CONTRAST ADJUSTMENT AND SPEECH ANNUNCIATION VOLUME CONTROLS

There are 2 adjustment controls on the back of the display module (**Fig.11**, (B) and (C)). The 'CON' adjustment POT controls the contrast and 'backlit' intensity of the display; turning the POT anti-clockwise increases the contrast and intensity of the display; turning the POT clockwise decreases the contrast and intensity of the display, see **Fig.12**. The 'VOL' adjustment POT controls the speech annunciation volume through the GSM module's speaker; turning the POT anti-clockwise turns the speech volume high; turning the POT clockwise turns the speech volume low, see **Fig.13**.

Fig. 12

Fig. 13

Additional Modules - Art. VR4KDM

TERMINAL CONNECTIONS, HARNESS CONNECTIONS AND USB INPUT

Terminal	Description
0V	Switched 0V input.
AO	Programmable auxiliary output (switched 0V).
I1	
I2	5 programmable auxiliary inputs. To program these inputs please refer to the technical manual:
I3	
I4	**UIM-138 Display Module Manual - Technical Manual Edition 1.0**
I5	
UIM-138 Harness Connection	5 pin UIM-138 harness input to CN3 connection on the GSM module. (see connection diagram below).
USB Input	USB cable input to connect to PC or laptop for programming the **VR4KDM** module. (see **Fig.14** below).

TECHNICAL SPECIFICATION

Working Voltage:	12 - 14Vdc +/- 10%
Standby Current:	approx. 29mA
Max. Current:	approx. 34mA (max.)
Harness Connection:	5 pin connector
USB Port:	standard USB cable input
Dimensions:	103mm (W) x 120mm (L) x 32mm (D)
Working Temperature:	-10 +50ºC

CONNECTING THE VR4KDM TO THE GSM MODULE

Fig.14 below shows how to connect the display module to the vandal resistant GSM module using the UIM-138 connection harness and then connecting the display module to a PC or laptop via the USB cable input.
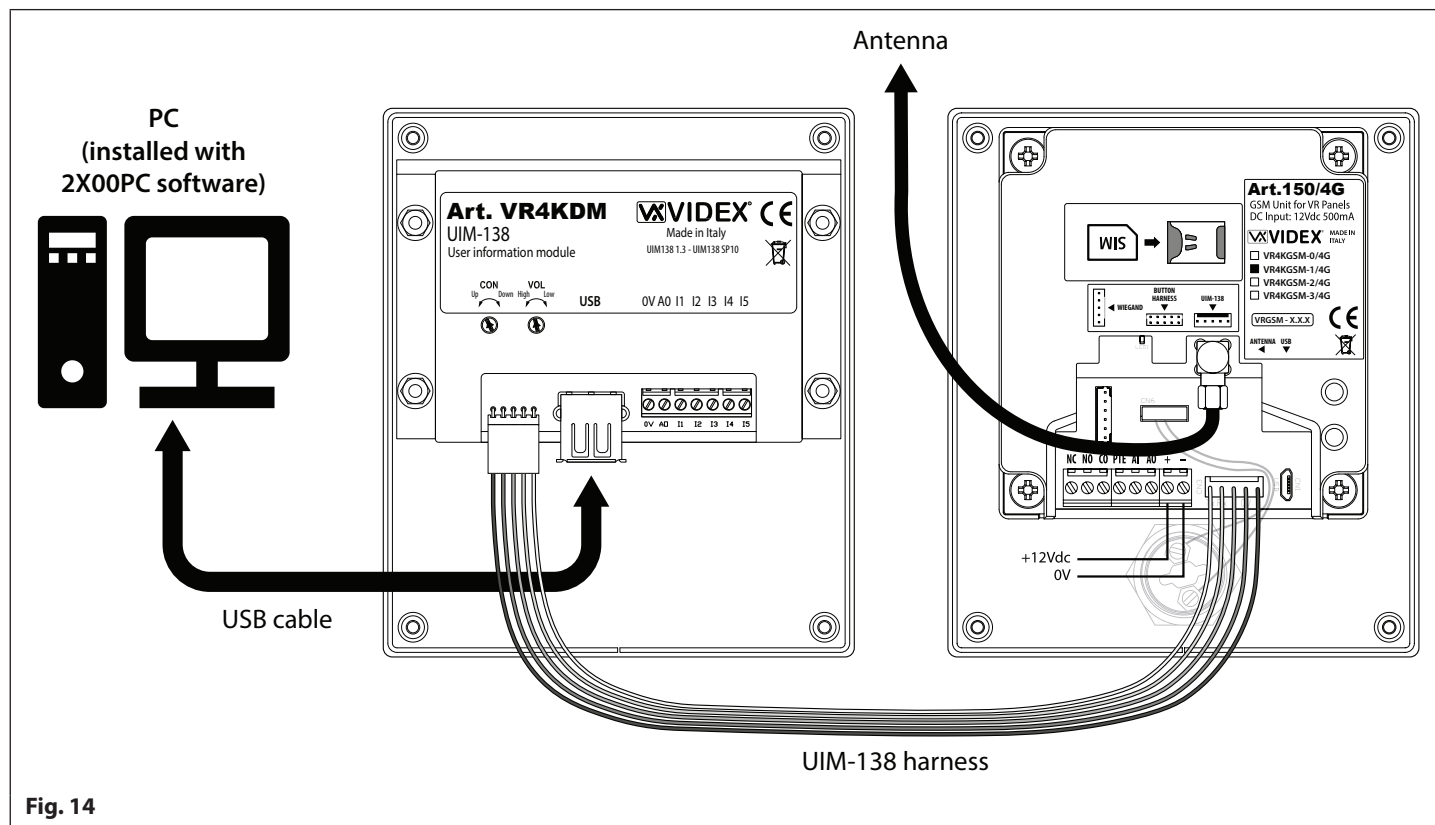
Fig. 14

Additional Modules - Art. VR4KPPM

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ART. VR4KPPM (WIEGAND PROXIMITY READER)
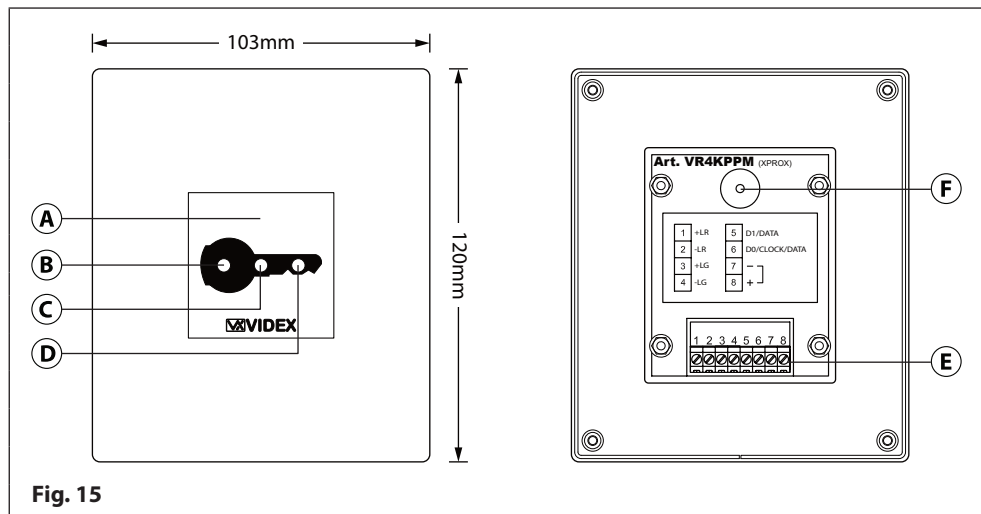
Fig. 15

LEGEND

Ⓐ Proximity reading area
Ⓑ Amber LED (data/standby)
Ⓒ Green LED (access granted)
Ⓓ Red LED (access denied)
Ⓔ Terminal connections
Ⓕ Acoustic sounder

DESCRIPTION

As previously mentioned on page 14, the **VR4KPPM** Wiegand proximity reader, **Fig.15**, can be connected to the GSM module using the 'plug-in' proximity connection harness.

TERMINAL CONNECTIONS AND WIRING HARNESS COLOURS

Terminal	Signal & Description	Wiring Harness Colours
1	**+LR :** Access denied (red) LED +positive connection.	Red wire linked across to terminals 3 and 8 (+positive).
2	**-LR :** Access denied (red) LED -negative switch connection.	Orange wire (red LED).
3	**+LG :** Access granted (green) LED +positive connection.	Red wire linked across to terminals 1 and 8 (+positive).
4	**-LG :** Access granted (green) LED -negative switch connection.	Green wire (green LED).
5	**D1/DATA :** Data connection/ Wiegand D1 data.	Yellow wire (D1 data).
6	**D0/CLOCK/DATA :** Clock data connection/ Wiegand D0 data.	White wire (D0 data).
7	**- :** 0V ground power input.	Black wire (0V).
8	**+ :** 12Vdc power input.	Red wire linked across to terminals 3 and 1 (+positive).

TECHNICAL SPECIFICATION

Working Voltage:	12Vdc +/- 10%
Current (standby):	20mA
Current (operation):	70mA (max.)
Wiegand Connection:	D0 and D1 clock and data
Dimensions (mm):	103 (W) x 120 (H) x 30 (D)
Working Temp. :	-10 +50ºC

CONNECTING THE VR4KPPM TO THE GSM

Follow the connections shown in **Fig.16** to connect the **VR4KPPM** Wiegand proximity reader to the GSM intercom using the 'plug-in' proximity connection harness. Refer to the table for the harness signal colours.

Further information on programming proximity fobs/cards can be found on pages 46 - 48 of this manual.
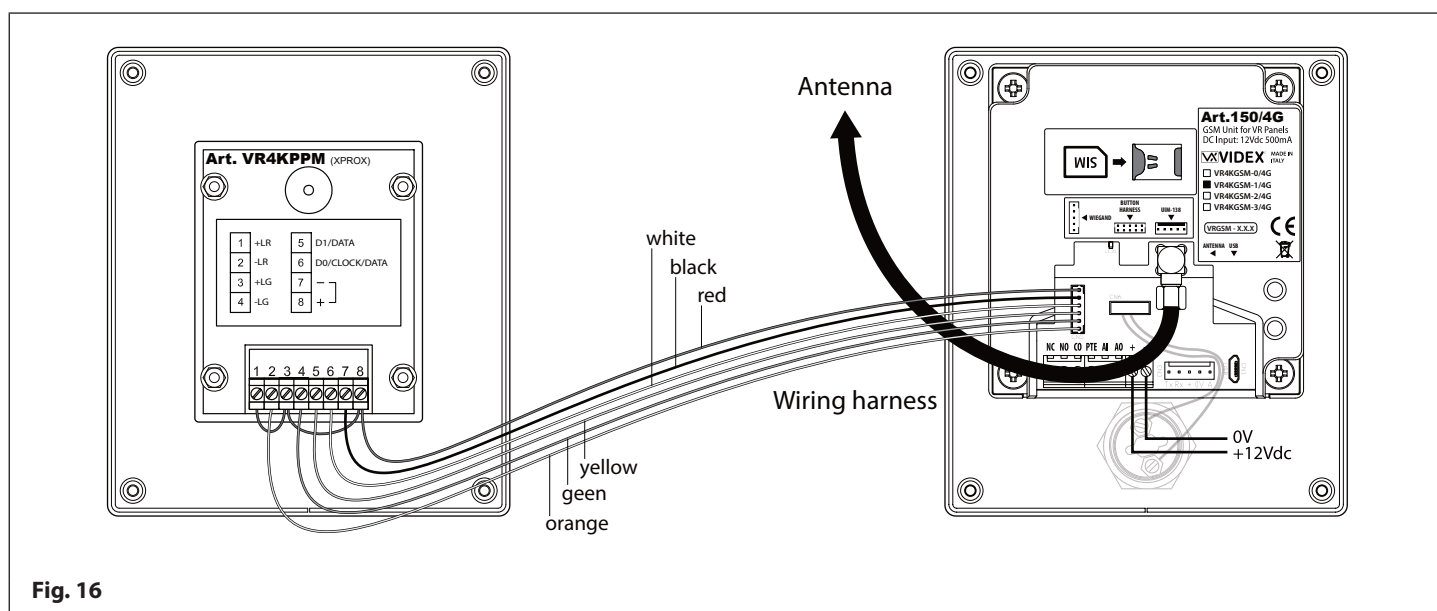
Fig. 16

Wiring Diagrams

GSMVRK/4G CONNECTIONS

Wiring connections for a 12Vdc fail secure lock release through the relay of the **GSMVRK-1/4G** and **GSMVRK-1S/4G** audio kit can be seen in **Fig.17**.

Fig. 17
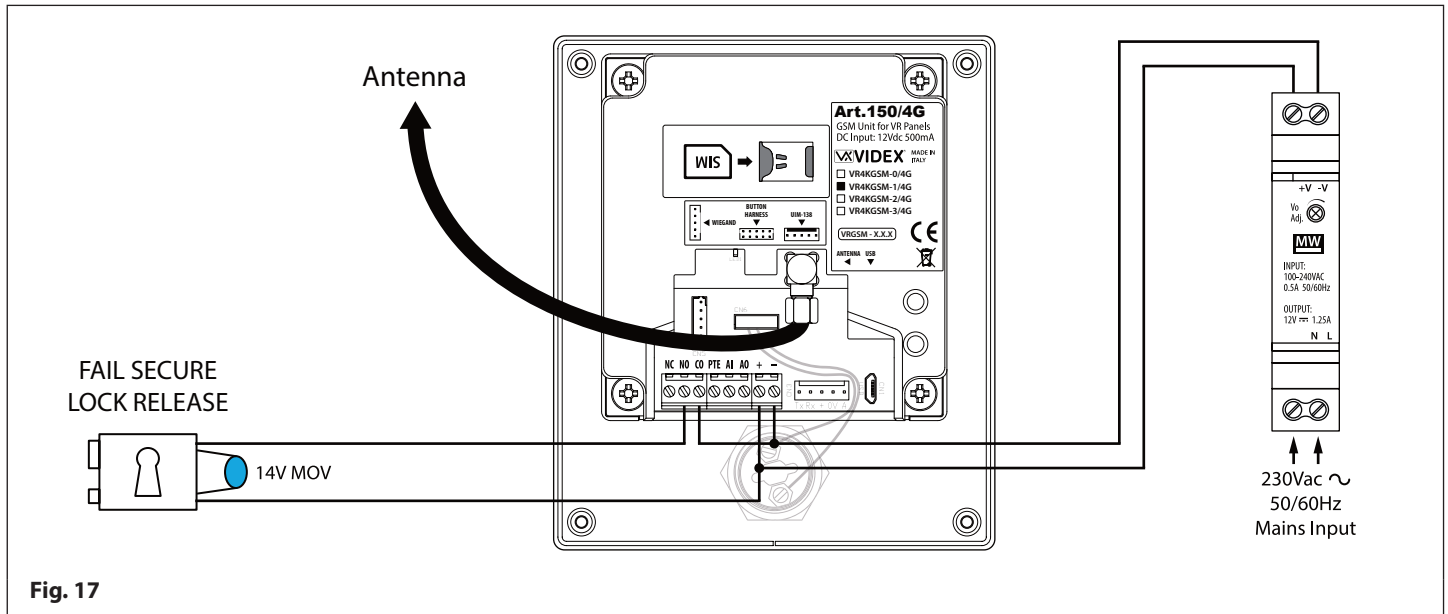
GSMVRKC/4G CONNECTIONS

Fig.18 shows connections for a **GSMVRKC**-**1/4G** and **GSMVRKC-1S/4G** audio kit with wiring for a 12Vdc fail secure lock release through **RLY1** contacts (**C1**/**NO1**) of the **VR4901** keypad. Inset are wiring connections for volt free gate contacts and wiring connections for a 12Vdc fail safe lock release also shown wired through **RLY1** contacts (**C1**/**NO1**) of the **VR4901** keypad.

Fig. 18
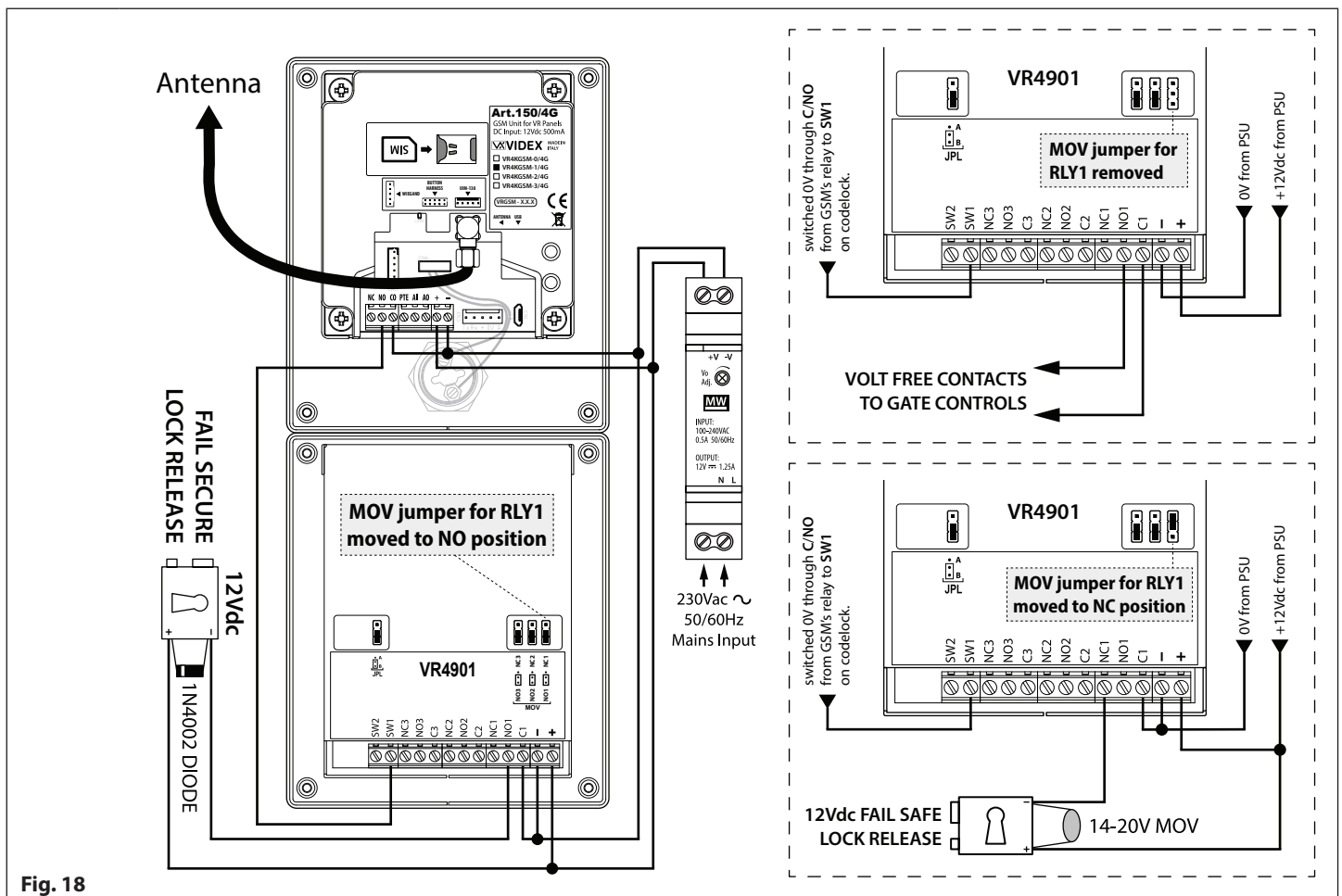
VOLT FREE CONNECTIONS TO GATE CONTROLS AND PUSH TO EXIT WIRING

If the 4G GSM intercom is going to be connected to an electric gate then the wires from the gate controls can be connected directly into the **CO** and **NO** relay terminals on the GSM module, **Fig.19**. The push to exit button must be configured as a push-to-make switch and connected across terminals **PTE** & - (0V) on the GSM. When the exit button is pressed the GSM relay will trigger for the programmed time, **RLT**.

Fig. 19
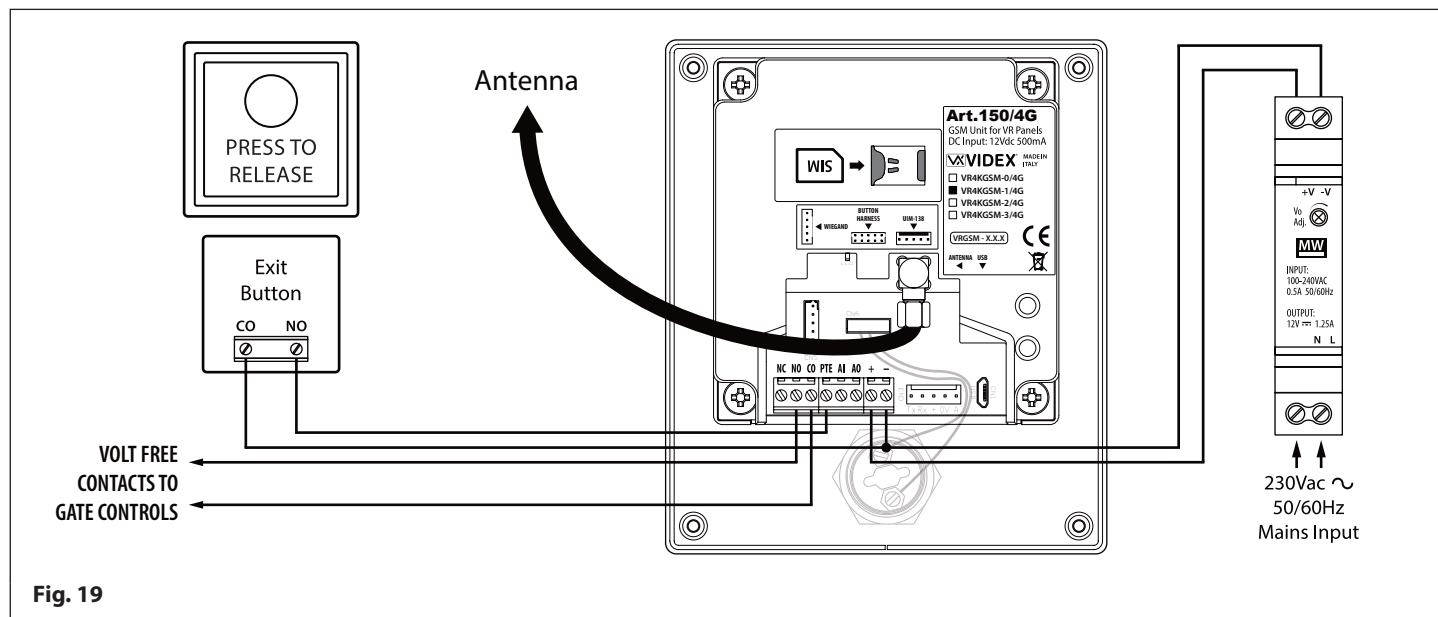
CONNECTING A TRADE BUTTON USING AN ART. 701T (28G) TIMECLOCK

If required a digital timeclock, the **Art.701T**, can be used for connecting a trade button. First isolate a button either on the **VR4KGSM/4G** module or VR4K button module (see button module variations in **Fig.1** and **Fig.2** on page 6). Connect the isolated button to the **Art.701T** timeclock as shown in **Fig.20**. The timeclock should be set to timeclock mode (see **Fig.20**). For programming and setup of the timeclock please refer to the **Art.701T** (28G) Installation Instructions: **66250340-701T-EN-V1.1**.

When the programmed timeband is reached on the timeclock pressing the trade button will trigger the GSM module's push to exit (**PTE**) input and the GSM relay will trigger for the programmed time, **RLT**.

Fig. 20
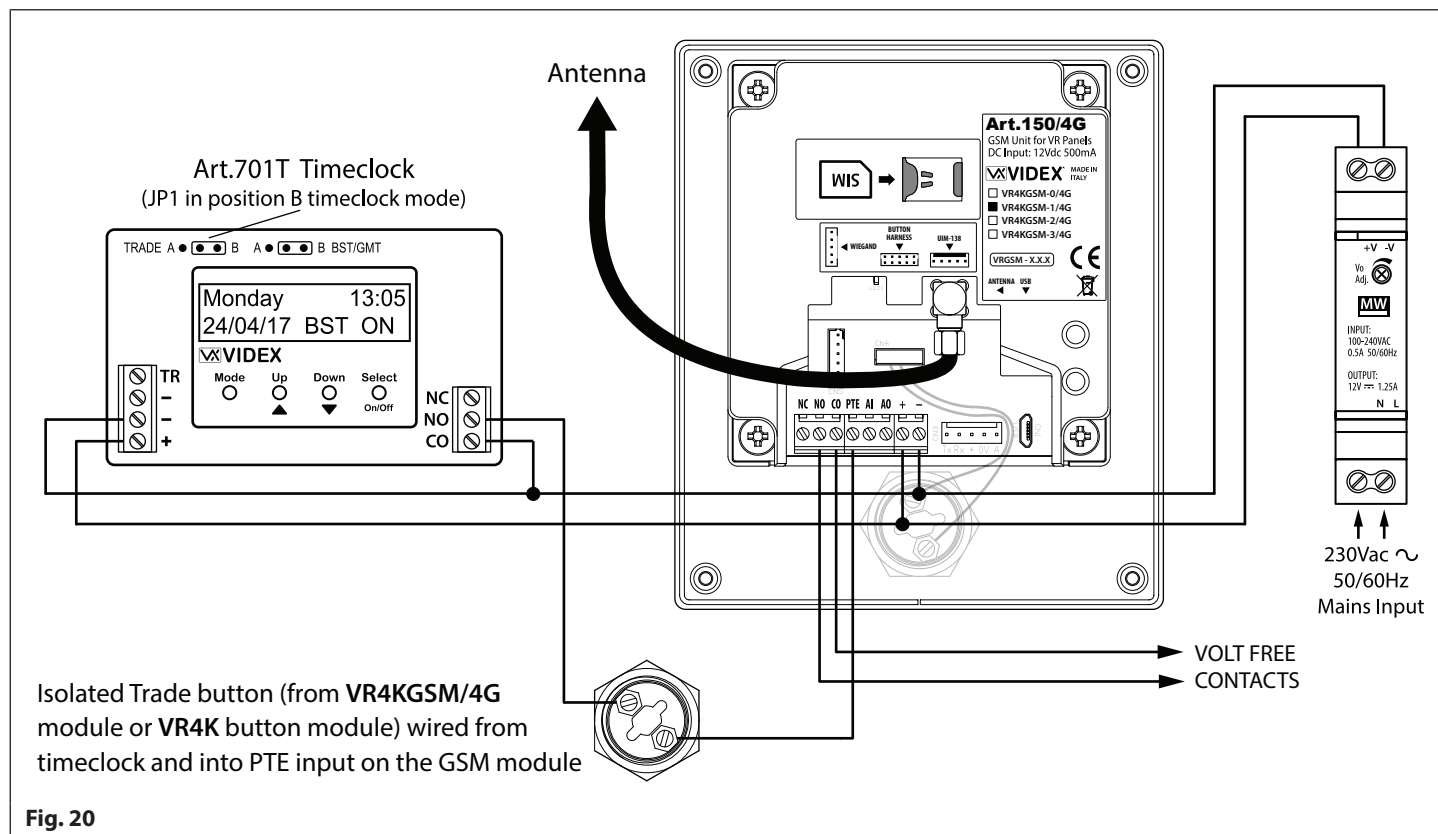
Auxiliary Input & Output

The GSM's auxiliary output can be programmed to 3 different modes (00 - 02), please refer to programming notes on how to setup the auxiliary output mode (**A1M**) on page 39.

AUXILIARY OUTPUT (AO) WHEN SET TO MODE 00 (ON DURING A CALL)

Fig.21 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **00**. The auxiliary output **AO** will activate once a call to an apartment has been made and will stay activated for the duration of the call.

When the auxiliary output mode (**A1M**) is set to mode **00**. The auxiliary output **AO** will activate from when a call is made to an apartment and stay activated for the duration of the call.

When the call is finished the auxiliary output AO will deactivate.

Fig. 21
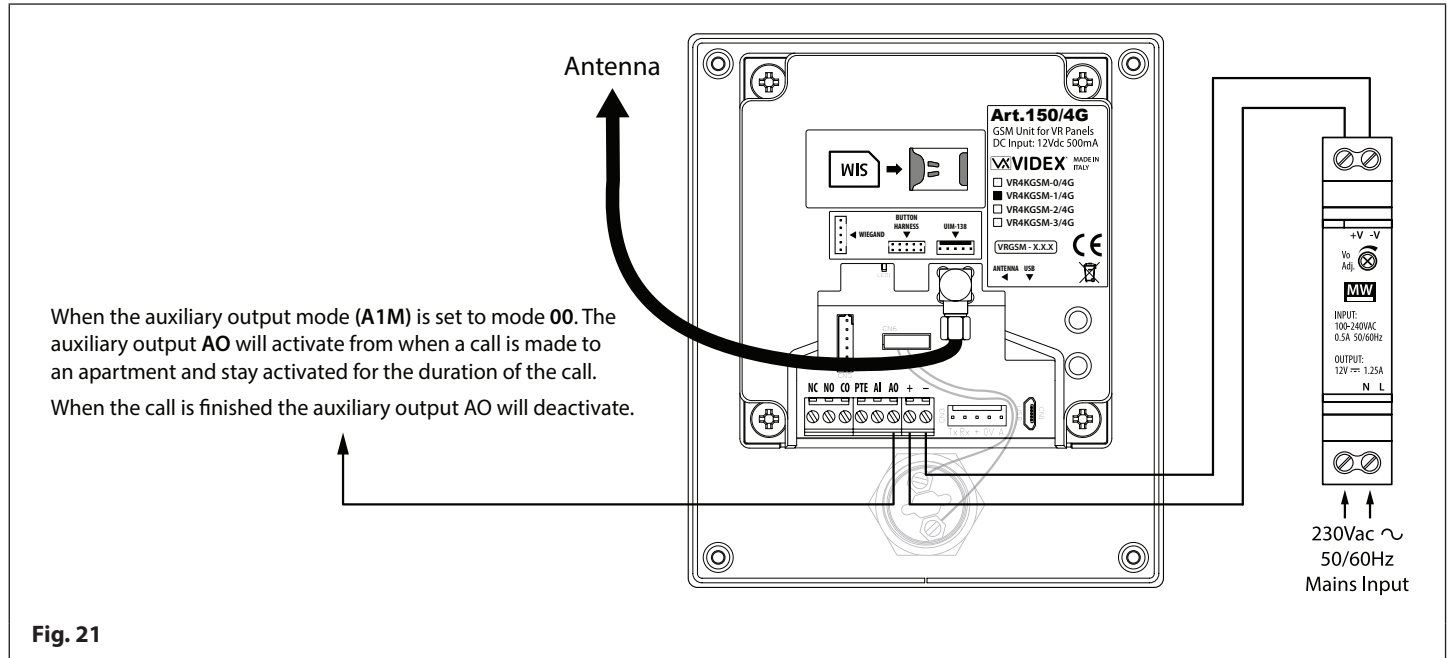
AUXILIARY INPUT (AI) AND AUXILIARY OUTPUT (AO) WHEN SET TO MODE 01 (ON WHEN TRIGGERED)

Fig.22 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **01**. The auxiliary output **AO** can be activated remotely by the user sending the text message **1111A1O** to the GSM intercom or by pressing **6** on the telephone during a call and will stay activated for the programmed auxiliary output time **A1T**. The auxiliary output can also be triggered by a normally open switch (switched 0V) connected into the auxiliary input **AI**.

The auxiliary output **AO** will activate for the programmed auxiliary output time (**A1T**) when the auxiliary input **AI** is triggered from a normally open switch (switched 0V) and the auxiliary output mode (**A1M**) is set to mode **01**.

The auxiliary output **AO** can also be triggered remotely by sending the text message **1111A1O** to the GSM module or by pressing **6** on the telephone during a call.

Fig. 22
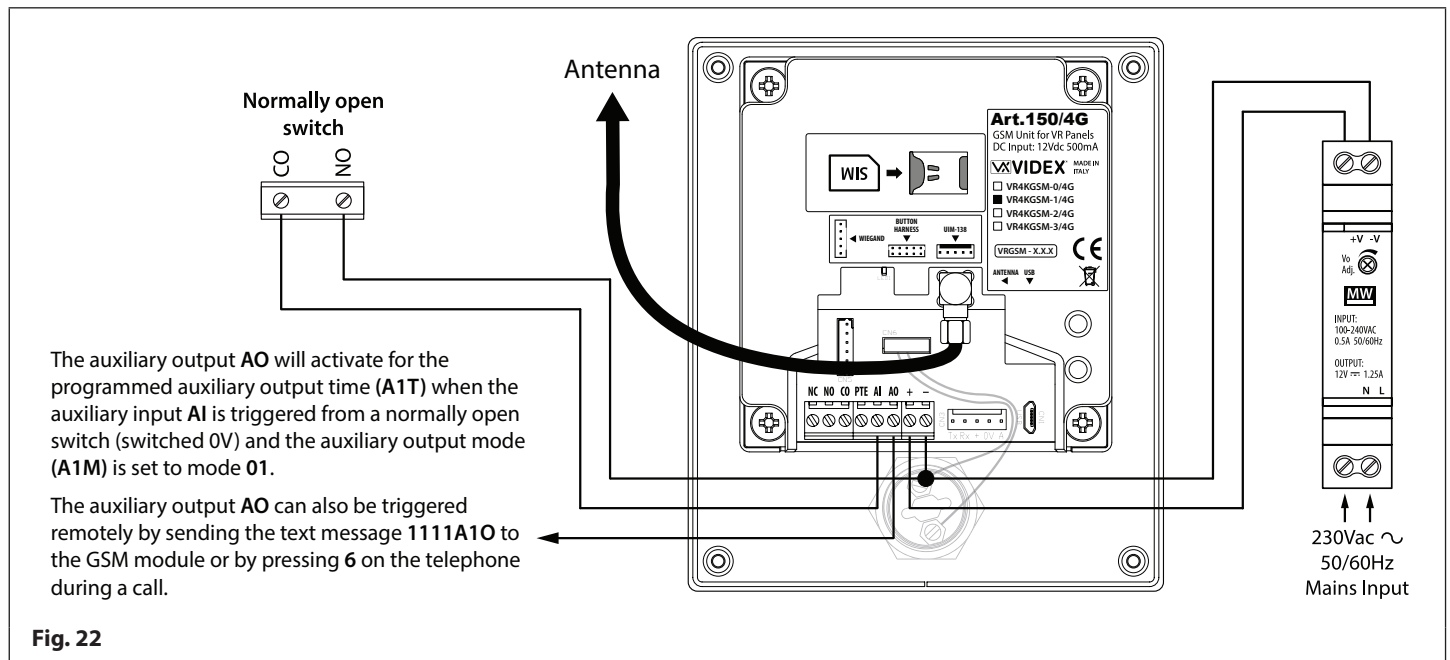
AUXILIARY OUTPUT (AO) WHEN SET TO MODE 02 (CALL ACTIVATED)

Fig.23 below shows the connection for auxiliary output **AO** when the **A1M** mode is set to **02**. The auxiliary output **AO** will activate once a call to an apartment has been made and will stay activated for the programmed auxiliary output time **A1T**.

Antenna

When the auxiliary output mode (**A1M**) is set to mode **02**. The auxiliary output **AO** will activate from when a call is made to an apartment and stay activated for the auxiliary output time (**A1T**).

230Vac ∿
50/60Hz
Mains Input
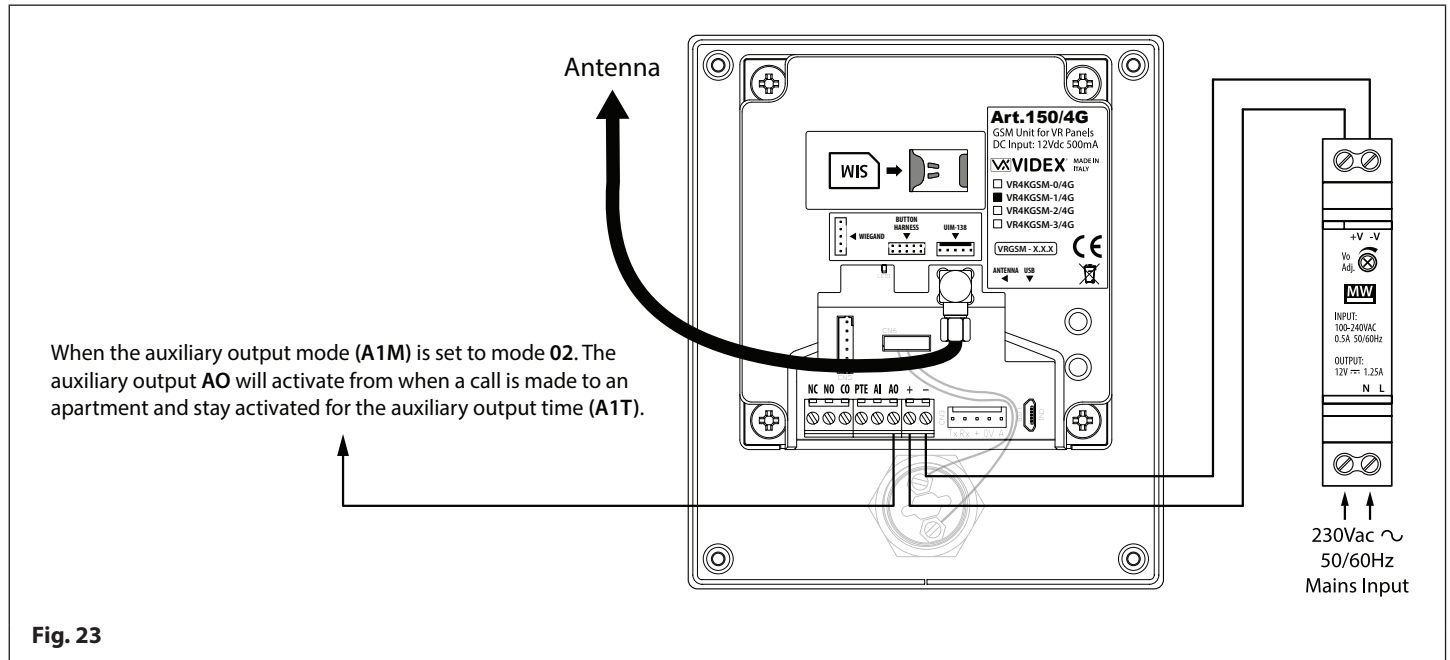
Fig. 23

CONNECTING A SECONDARY DEVICE TO THE AUXILIARY OUTPUT (AO)

Since the auxiliary output **AO** is a transistor switched output (switched low output) it can be connected to a relay (e.g. an Art.506N). This is particularly useful if a secondary device requires triggering. **Fig.24** shows how to connect an Art.506N relay.

VOLT FREE
CONTACTS

Antenna

Art.506N

230Vac ∿
50/60Hz
Mains Input
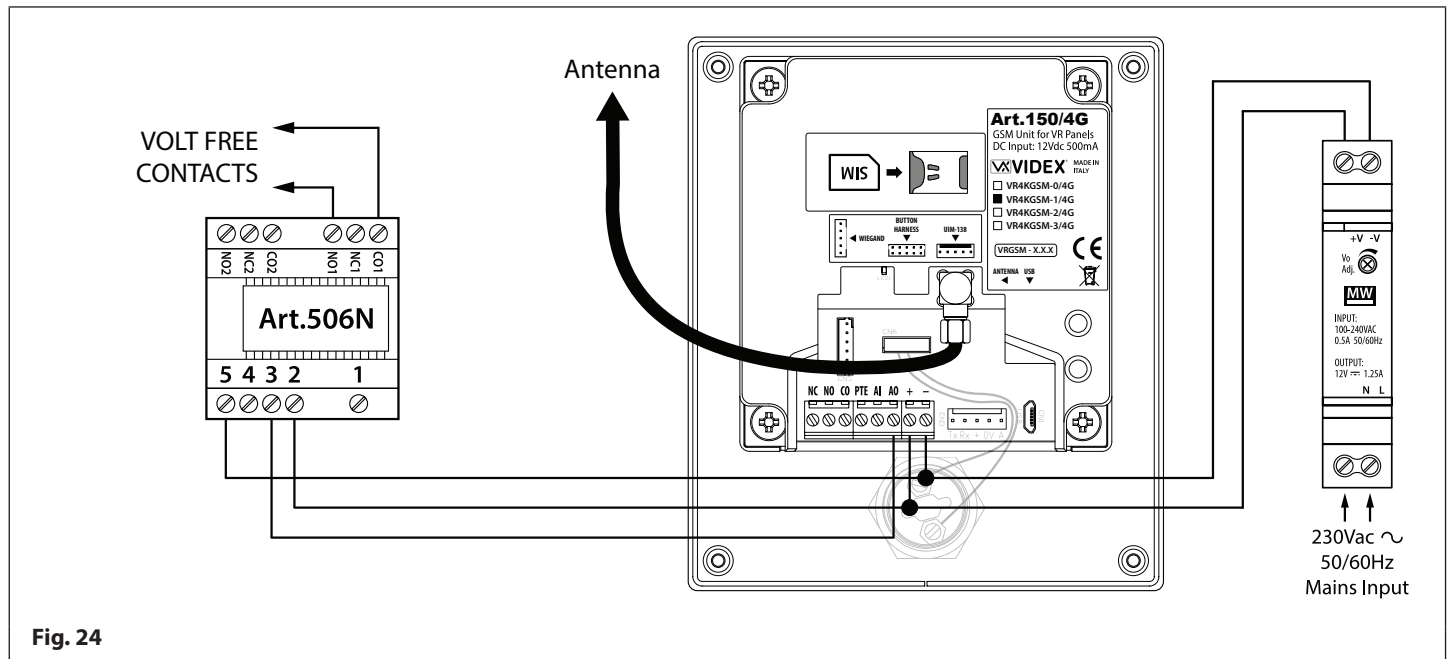
Fig. 24

USB Connection

CONNECTIONS TO A PC

The vandal resistant GSM intercom also includes a micro-USB connection allowing the module to be connected to a laptop/PC for ease of programming and for downloading the event log. Programming is carried out using the **GSMSK** PC software. All programming features described in this manual are also accessible using the software. Further information on using the **GSMSK** PC software can be found in the technical manual **GSMSK_66251720-EN_V2-2** (or later).

USB CONNECTION

The GSM module can be connected using a standard micro-USB to USB cable as shown in **Fig.25**.
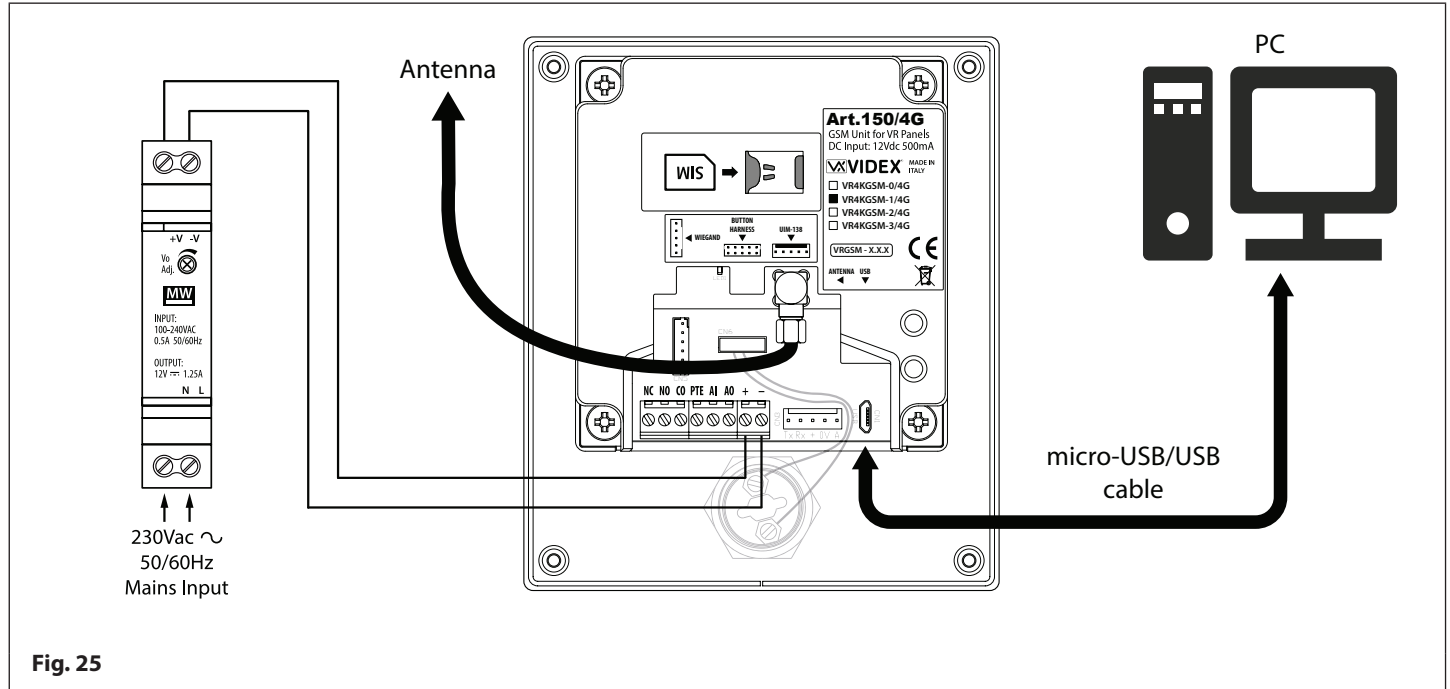
Fig. 25

IMPORTANT NOTE: The USB is <u>not</u> intended for a permanent connection to a PC and should only be used for programming and setup of the GSMVRK module.

General Directions for Installation

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CABLE SIZE GUIDE

Refer to the table below for the connections for the power supply output to the VR4KGSM intercom 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 intercom panel as possible for best performance. The maximum acceptable resistance for the above cables = 3Ω or less for best possible performance.

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

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**.


~ ~

A varistor (MOV) can be fitted to either an AC or DC lock across the lock terminals and is not polarity conscious

100nF CAP

12V AC LOCK RELEASE

Fig. 26

− +

DIODE 1N4002

12V DC LOCK RELEASE

Fig. 27
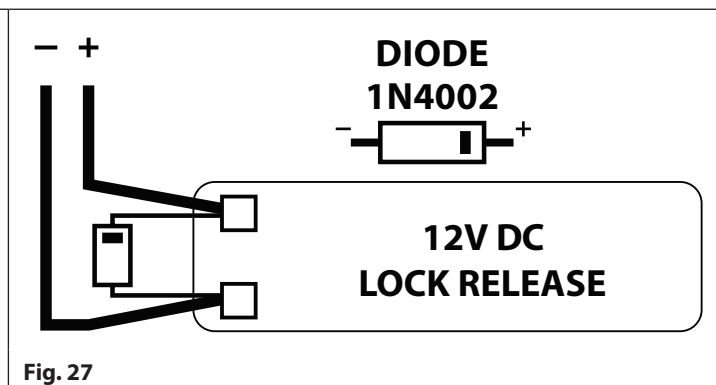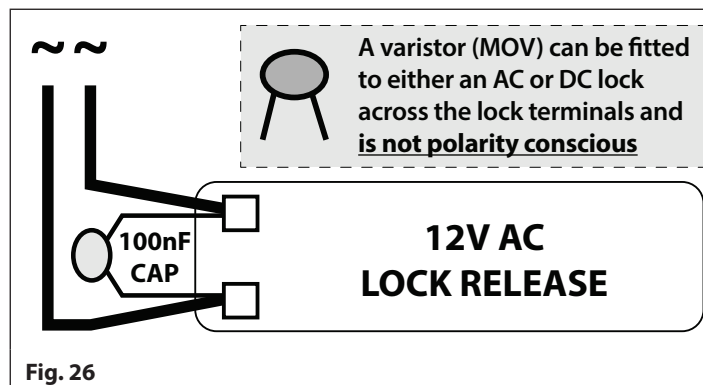
If a 100nF ceramic disc capacitor or a 1N4002 diode are not available then a 14 - 20V MOV (metal oxide varistor) can be fitted across the lock terminals instead (refer to **Fig.26** inset, above) and can be fitted on both an AC and DC lock. Connection examples can also be seen on the various wiring diagrams on pages 20 - 21.

CONNECTION TO MAINS, SAFETY AND GUIDANCE NOTES

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

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

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

General Directions for Installation

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MAINS CONNECTION

The system **MUST** be installed in accordance with the current I.E.E. regulations (in particular **I.E.T. Wiring Regulations, Eighteenth Edition BS7671:2018** 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.

MAINS

N

FUSE

L

1 PHASE
SUPPLY
(220 - 240Vac,
50/60Hz)

SWITCHED
FUSE SPUR

Fig. 28
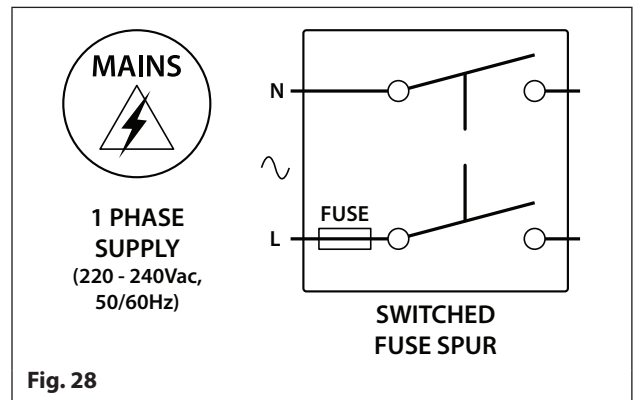
POWER SUPPLY INSTALLATION

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.

- Check the connections and secure the wires into the terminals ensuring that the low voltage (signal) cables are routed separately from the high voltage (mains) cables.

- If applicable replace the terminal covers and fix them back into place using the relevant screws.

- When all connections are made restore the mains supply.

Fig. 29

Fig. 30

Fig. 31
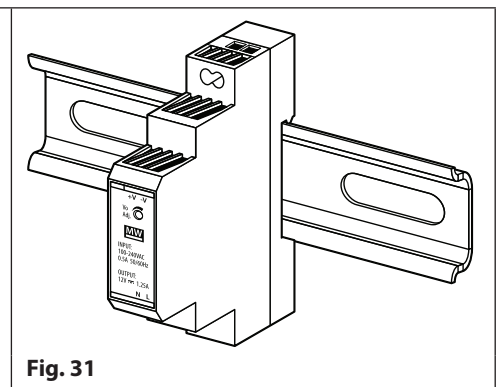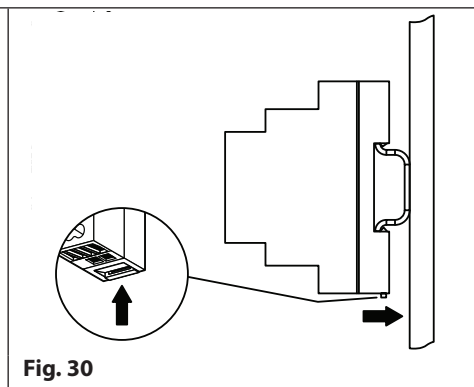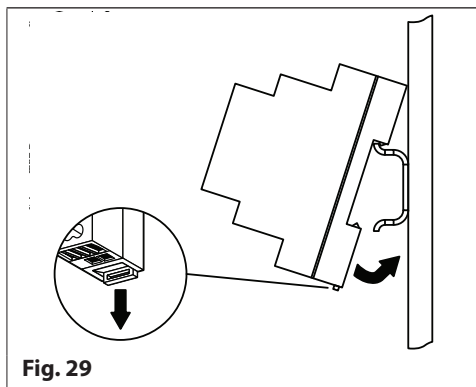
PANEL CARE

The GSM intercom's fascia is manufactured from brushed stainless steel. It is important that it is cleaned on regular occasions to prevent dirt build up and tarnishing of the metal.

A clean and soft cloth should be used with moderate warm water or non-aggressive cleansers. Additional care should be taken to follow the grain of the metalwork when polishing panels with a brushed stainless steel finish and always only polish in one direction to avoid light scratching of the plate, see **Fig.32**. Also try to avoid any polish build up around the panel's buttons which may prevent the buttons from operating correctly.

<u>DO NOT USE ANY OF THE FOLLOWING:</u>

- Abrasive liquids.
- Chlorine-based liquids.
- Metal cleaning products*.
- Hydrochloride bleaches.

* including Sidol stainless steel cleaner as this can affect the etching and/or engraving.

Fig. 32
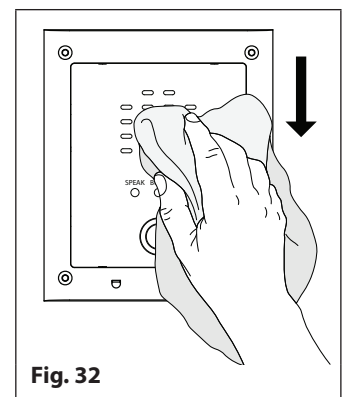
⚠ **<u>IMPORTANT NOTE:</u> IT IS IMPORTANT TO REGULARLY MAINTAIN THE "UP KEEP" OF THE GSM PANEL (CLEANING AND GENERAL MAINTENANCE ETC.) ANY FAULT OR DAMAGE THAT MAY OCCUR TO THE GSM PANEL DUE TO THE LACK OF CLEANING AND MAINTENANCE IS NOT THE RESPONSIBILITY OF VIDEX.**

Fitting the SIM & Connecting Power

VIDEX ®
THE POWER TO SECURE

FITTING THE SIM CARD AND CONNECTING THE POWER TO THE GSM INTERCOM

After installing the power supply, antenna, lock output and any auxiliary devices as shown in this manual and before powering up, a SIM card must be installed (the SIM must already be registered with the network provider). The SIM holder can be found on the back of the module below the antenna connections. A nano SIM card from most network providers can be used, remember the 4G GSM module will work with a 2G, 3G and a 4G SIM and will also work with the 3 network. Follow the steps below to insert the SIM card.

FITTING AND REMOVING THE SIM

Fitting the SIM:

1. Viewing the back of the GSM module place the nano SIM on the SIM icon (the icon is upside down), with the SIM contacts facing down and following the SIM orientation, as shown in **Fig.33**.

2. Carefully, using your index finger, guide the nano SIM right, see **Fig.34**, into the SIM holder, see **Fig.35**.

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 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.36**) 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.37**.
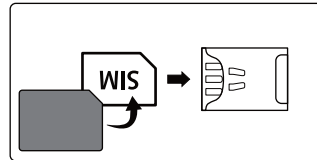
Fig. 33
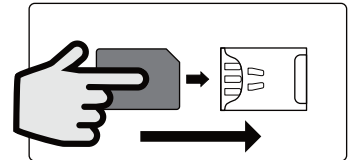
Fig. 34
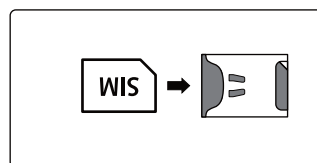
Fig. 35
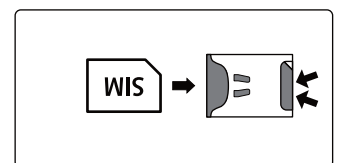
Fig. 36
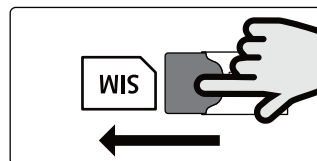
Fig. 37

POWER UP INITIALISATION SEQUENCE

The GSM module requires approximately 30 seconds to initialise properly. We recommend **NOT** sending SMS messages or pressing buttons during this time.

1. Check all the connections have been made correctly and then power up the system.

2. Two short beeps will be heard from the GSM module and the busy LED will switch ON, as shown in **Fig.38**.

3. After approximately 10 seconds the busy LED will start to flash for a further 10 seconds and then emit a single beep, as shown in **Fig.39**.

4. The busy LED will continue to flash while it registers with the chosen network.

5. After a further delay the busy LED will stop flashing to indicate that the GSM module has registered with the network and is ready to begin programming.

IMPORTANT NOTE: On the back of GSM module the power & network status LED (refer to Fig.7, ⓖ, page 12) will indicate one of the following either during the power up initialisation cycle or when the GSM module is in standby:

- **LED OFF - not connected to the network or the GSM module is powered down.**

- **LED ON - the GSM module is searching for a network or is in a call.**

- **LED flashing slowly (approx. 800ms ON/800ms OFF) GSM is registered to a 2G or 3G network.**

- **LED flashing fast (approx. 200ms ON/200ms OFF) GSM is registered to a 4G network.**

If you hear a different combination of beeps during the initialisation process then you can find the meaning of these beeps towards the back of the manual.

SPEAK BUSY OPEN *BEEP! BEEP!*

Fig. 38

SPEAK BUSY OPEN *BEEP!*
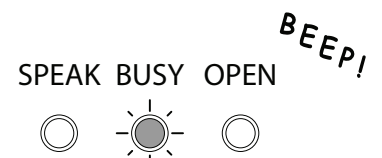
Fig. 39

Reset Procedure

RESETTING THE GSM MODULE TO FACTORY DEFAULTS

There are two reset options for the GSM module. The first will reset the master code only and the second will reset everything and clear all stored telephone numbers, proximity cards and settings.

RESETTING THE MASTER CODE TO 1111 (4x1)

1. Ensure the power is switched **OFF** to the GSM module;

2. Short out the blue (c) and yellow (6) wires together from the button harness cable (refer to **Fig.3** and the button harness table on page 7).

3. Switch the power back **ON** to the GSM module.

4. Two short beeps will be heard from the GSM module and the busy LED will switch **ON**, as shown in **Fig.40**.

5. After approximately 5 seconds the busy LED will start to flash.

6. The busy LED will continue to flash for a further 15-20 seconds while it resets the master code and then emit a single beep, as shown in **Fig.41**.

7. After a short delay of approximately 5 seconds the busy LED will stop flashing, as shown in **Fig.42**, to indicate that the master code has been reset back to the factory default **1111** (4x1).

8. After the reset remove the short between the blue (c) and yellow (6) wires.

<u>IMPORTANT NOTE:</u> **When a master code reset is performed on the GSM module it will only reset the 4 digit programming code back to factory default 1111, all the settings and programmed information (telephone numbers, proximity fobs/cards, etc.) will still be stored in the GSM module.**

BEEP!
BEEP!
SPEAK BUSY OPEN

Fig. 40

15 - 20 secs...
BEEP!
SPEAK BUSY OPEN

Fig. 41

5 secs...
SPEAK BUSY OPEN
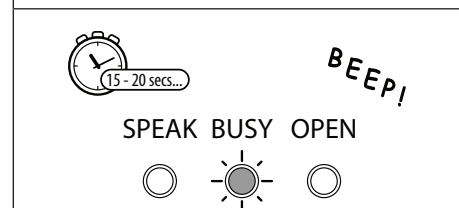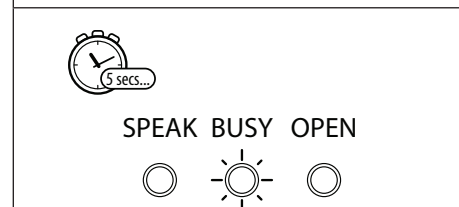
Fig. 42

FULL SYSTEM RESET

1. Ensure the power is switched **OFF** to the GSM module.

2. Short out the violet (d) and yellow (6) wires together from the button harness cable (refer to **Fig.3** and the button harness table on page 7).

3. Switch the power back **ON** to the GSM module.

4. Two short beeps will be heard from the GSM module and the busy LED will switch **ON**, as shown in **Fig.43**.

5. After approximately 8 seconds the busy LED will start to flash as shown in **Fig.44**.

6. The busy LED will continue to flash while it resets the GSM module.

7. After a short delay of approximately 6 seconds the busy LED will stop flashing and the GSM will emit a single beep to indicate that the module has been fully reset, as shown in **Fig.45**. All the settings will be reset back to factory default and any stored user information etc. will be deleted from the module.

8. After the reset remove the short between the violet (d) and yellow (6) wires.

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

If a high volume of information is stored in the GSM module it can be downloaded and saved using the GSMSK PC software, more details on how to do this can be found in the following manual: GSMSK_66251720-EN_V2-2 (or later).

BEEP!
BEEP!
SPEAK BUSY OPEN

Fig. 43

8 secs...
SPEAK BUSY OPEN

Fig. 44

6 secs...
BEEP!
SPEAK BUSY OPEN

Fig. 45

4000 Series Back Box Installation

EXAMPLE: INSTALLING A 4000 SERIES TWO MODULE SURFACE BACK BOX (ART. 4882)
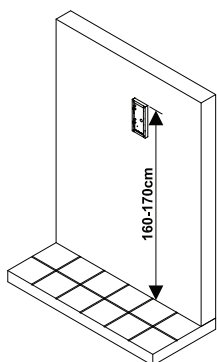
Fig. 46
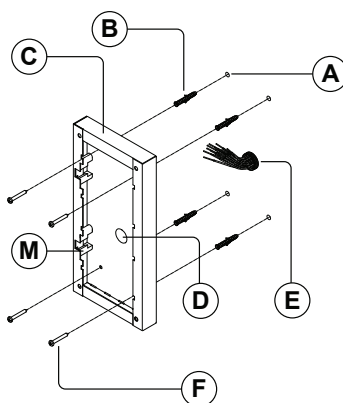
Fig. 47
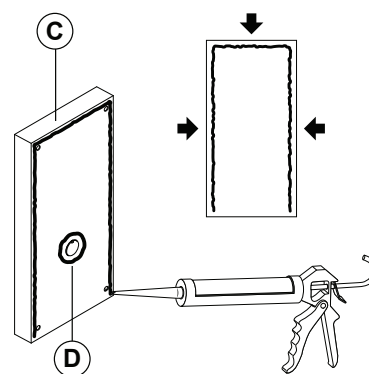
Fig. 48
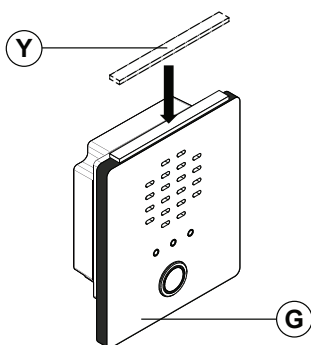
Fig. 49
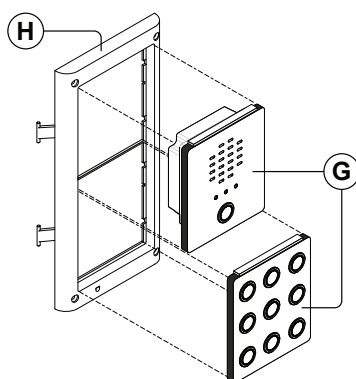
Fig. 50
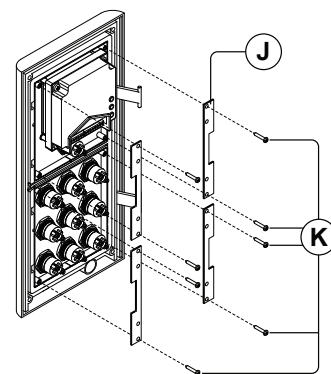
Fig. 51
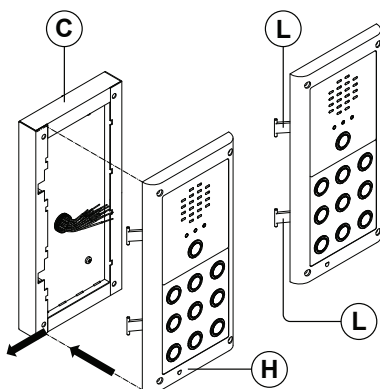
Fig. 52
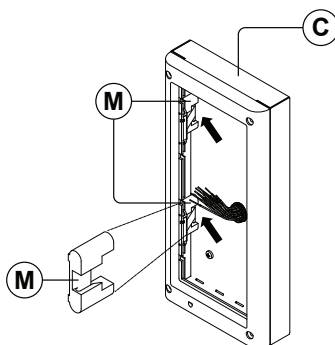
Fig. 53
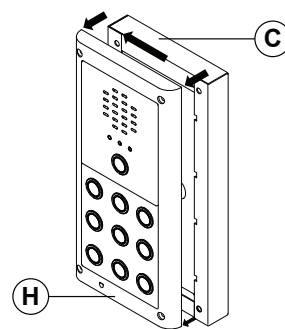
Fig. 54
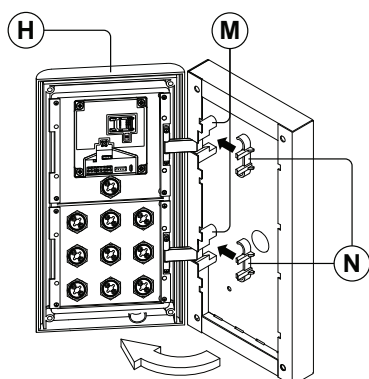
Fig. 55
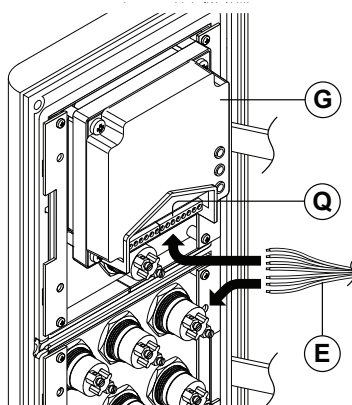
Fig. 56
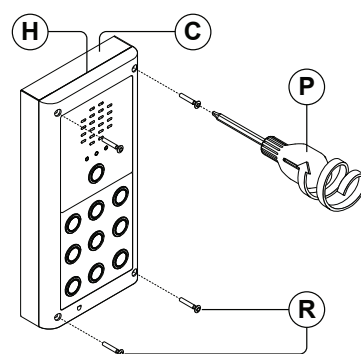
Fig. 57

INSTALLING A SURFACE MOUNT DOOR STATION

1. Place the surface box against the wall (165-170cm between the top of the box and the floor level as shown in **Fig.46**) and mark the fixing holes Ⓐ for the wall plugs Ⓑ and the hole for the cables Ⓔ **(Fig.47).** Observe the orientation of the surface box with the hinge mount Ⓜ on the left;

> ⚠ **In order to prevent water ingress we highly recommend using a silicon sealant between the wall and the back box Ⓒ, ON THE LEFT, TOP AND RIGHT SIDES ONLY AND AROUND ALL THE HOLES Ⓓ. DON'T USE SILICON SEALANT ON THE BOTTOM SIDE OF THE BACK BOX (Fig.48);**

2. As shown in **Fig.47,** drill the fixing holes Ⓐ, insert the wall plugs Ⓑ and feed the cables Ⓔ through the surface box opening Ⓓ, fix the surface box Ⓒ to the wall using the screws Ⓕ;

3. Next fit the neoprene seal Ⓨ (removing the thin film first) along the top side of the module Ⓖ, as shown in **Fig.49;**

4. Before installation of the module support frame Ⓗ to the surface box Ⓒ, fit the module Ⓖ to the support frame Ⓗ as shown in **Fig.50** then, as shown in **Fig.51,** fit the module fixing brackets Ⓙ using the fixing screws Ⓚ;

5. Next take the frame's hinges Ⓛ and hook the module support frame Ⓗ to the surface box Ⓒ, starting from the left following the guide arrows, as shown in **Fig.52.** Ensure that the frame's hinges Ⓛ **(Fig.52)** fit inside the relevant hinge mounts Ⓜ inside the surface box Ⓒ, following the guide arrows, as shown in **Fig.53;**

6. Pull back the module support frame Ⓗ from the surface box Ⓒ while moving it slightly to the left, following the guide arrows, as shown in **Fig.54;**

7. Next open the module support frame Ⓗ and clip the hinge locks Ⓝ to the hinge mounts Ⓜ, following the guide arrows, as shown in **Fig.55;**

8. Take the cable wires Ⓔ and make the required wiring connections into the terminals Ⓠ on the back of the module Ⓖ, as shown in **Fig.56**, using the screwdriver provided Ⓟ (from **Fig.57** and using the flat blade end);

9. Make any other necessary panel adjustments required, fitting the SIM card and setting the dip-switches etc. For the button module configuration refer to **Fig.3** and the button harness table on page 7 and for connecting the antenna refer to **Fig.4** on page 8;

10. After the system has been tested and is working correctly, move back the module support frame Ⓗ carefully and then fix it to the surface box Ⓒ using the screwdriver provided Ⓟ (using the torx end) and the torx pin security screws provided Ⓡ, as shown in **Fig.57**. <u>**Note: do not over tighten the screws more than is necessary.**</u>

> ⚠ **Note: if additional holes are made in the surface box, oxidation problems may appear unless the unprotected metal is coated with a protective paint.**

NOTES

- The screwdriver's blade has two sides, one flat and one torx, to select one of them unplug the blade from the screwdriver body and plug it into the required side;

- The example shows the use of only one back box hole Ⓓ for the wires, this is done to keep the file drawings clear. Naturally the installer can use more than one back box hole if required.
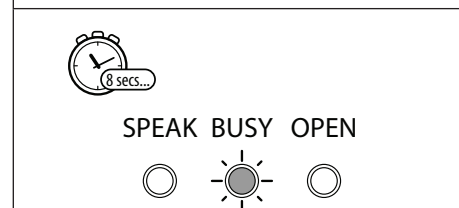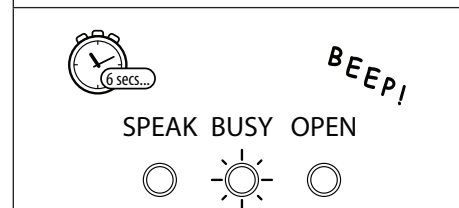
4000 Series Back Box Installation

EXAMPLE: INSTALLING A 4000 SERIES TWO MODULE FLUSH BACK BOX (ART. 4852)
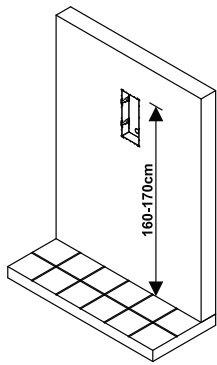
Fig. 58
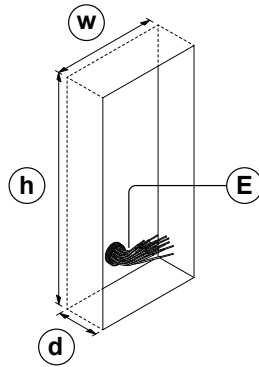
Fig. 59
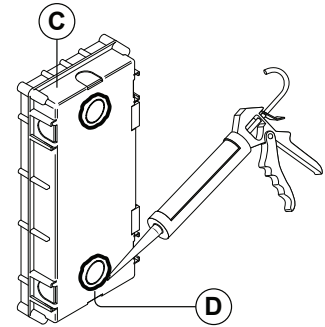
Fig. 60
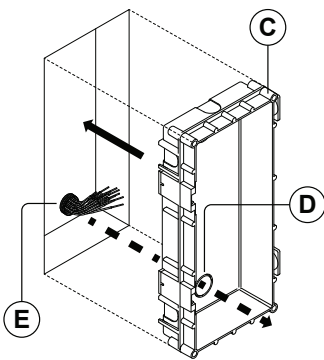
Fig. 61
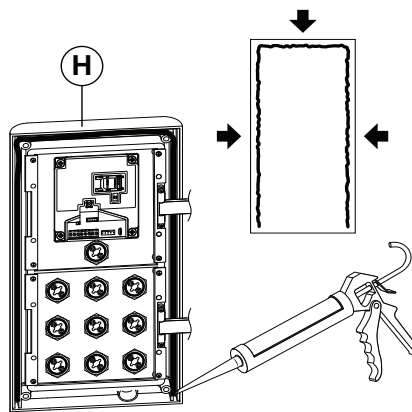
Fig. 62
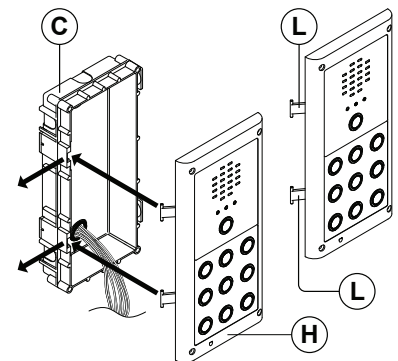
Fig. 63
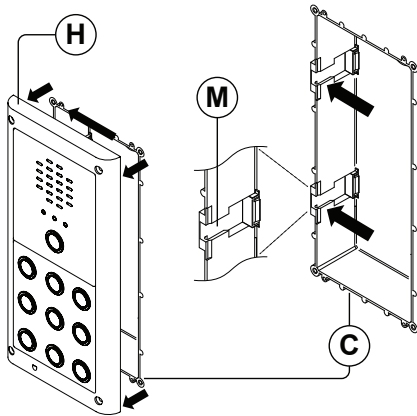
Fig. 64
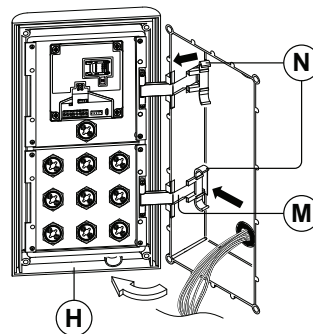
Fig. 65
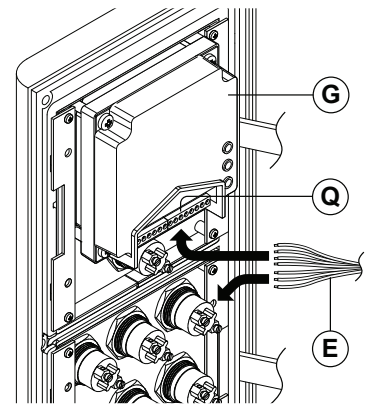
Fig. 66
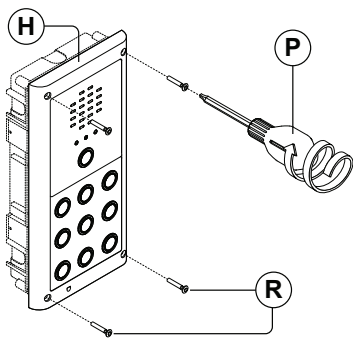
Fig. 67
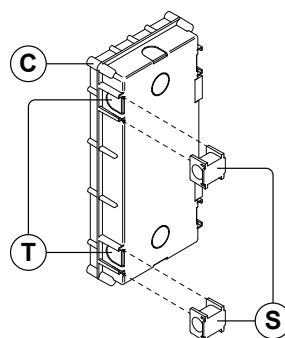
Fig. 68
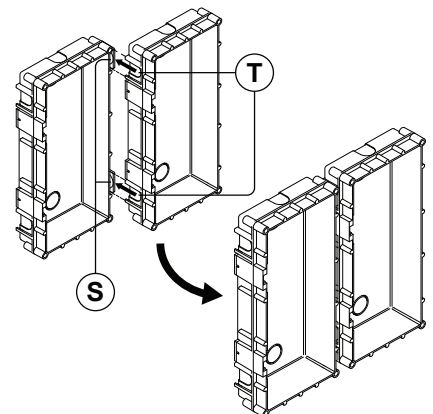
Fig. 69

INSTALLING A FLUSH MOUNTING DOOR STATION

1. It is recommended that the flush box Ⓒ is mounted into the wall approximately 165-170cm between the top of the box and the floor level as shown in **Fig.58**.

2. Using the flush box Ⓒ and the hole dimensions **(w=120mm x h=263.2mm x d=46mm)**, as shown in **Fig.59**, use appropriate tools to cut out the recommended hole size in the wall (where required it may be necessary to wear the appropriate clothing, e.g. protective gloves and eye protection, when doing this). Remember to allow room for the connecting cables Ⓔ (**Fig.59**);

⚠ **Before fitting the flush box Ⓒ into the wall it is recommended that in order to prevent water ingress a silicon sealant is used between the wall and the flush box and around the flush box holes Ⓓ (Fig.60);**

3. Set the flush box Ⓒ into the hole in the wall feeding the connecting cables Ⓔ through the appropriate flush box hole Ⓓ, as shown in **Fig.61**;

4. Follow steps 3 and 4, from 'installing a surface mounting door station', to fit the module into the module support frame Ⓗ as shown in **Fig.49, Fig.50** and **Fig.51** (on pages 29 and 30);

⚠ **In order to prevent water ingress it is highly recommended that a silicon sealant is used between the module support frame Ⓗ and the flush box. The silicon sealant should be used on the left, top and right sides only of the module support frame. Don't use silicon sealant on the bottom side of the module support frame Ⓗ (Fig.62);**

5. Take the frame's hinges Ⓛ and hook the module support frame Ⓗ to the flush box Ⓒ, starting from the left following the guide arrows, as shown in **Fig.63**. Ensure that the frame's hinges Ⓛ **(Fig.63)** fit inside the relevant hinge mounts Ⓜ inside the flush box Ⓒ, as shown in **Fig.64**;

6. Next close in the front support frame Ⓗ and then pull it back from the flush box Ⓒ while moving it slightly to the left, following the guide arrows, as shown in **Fig.58**;

7. With the front support frame Ⓗ opened out (to allow for easy access to the hinge mounts Ⓜ) take the hinge locks Ⓝ and clip them in place locking into the hinge mounts Ⓜ, following the guide arrows as shown in **Fig.65**;

8. Take the cable wires Ⓔ and make the required wiring connections into the terminals Ⓠ on the back of the module Ⓖ, as shown in **Fig.66**, using the screwdriver provided Ⓟ (from **Fig.67** and using the flat blade end);

9. Make any other necessary panel adjustments required, fitting the SIM card and setting the dip-switches etc. For the button module configuration refer to **Fig.3** and the button harness table on page 7 and for connecting the antenna refer to **Fig.4** on page 8;

10. After the system has been tested and is working correctly, move back the module support frame Ⓗ carefully and then fix it to the flush box Ⓒ using the screwdriver provided Ⓟ (using the torx end) and the torx pin security screws provided Ⓡ, as shown in **Fig.67**. <u>**Note: do not over tighten the screws more than is necessary.**</u>

FITTING ADDITIONAL FLUSH BOXES

If the number of flush back box modules exceeds 3 modules, the required back boxes need to be linked together before embedding them into the wall (follow the steps below). It should also be noted that the size of the hole in the wall will vary depending on the number of flush box modules required, please refer to the flush box dimension table on page 8 to obtain the width, height and depth of the hole required.

1. Take the flush box clips Ⓢ and slide them into the side slots Ⓣ on the **1st** flush box, as shown in **Fig.68**;

2. Next take the **2nd** flush box module and align the side slots Ⓣ (on the **2nd** flush box) with the side clips Ⓢ from the **1st** flush box. Following the guide arrows push down on the **2nd** flush box so that it clips into position, as shown in **Fig.69**.

NOTES

- The screwdriver's blade has two sides, one flat and one torx, to select one of them unplug the blade from the screwdriver body and plug it into the required side;

- The example shows the use of only one back box hole Ⓓ for the wires, this is done to keep the file drawings clear. Naturally the installer can use more than one back box hole if required.

Programming the GSM Intercom

PROGRAMMING THE GSM INTERCOM

Programming the **VR4KGSM/4G** intercom can be carried out by one of the following methods: sending text (SMS) messages, by using the **GSMSK** PC software (ver 4.1.0.36 or later), also refer to the programming manual **GSMSK_66251720-EN_V2-2** (or later) or by using either of the two GSM mobile apps, the **Videx SMS Wizard** for users and the **Videx SMS Wizard PRO** for installers and engineers (also refer to additional notes on page 56).

<u>IMPORTANT NOTE:</u> **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 may look the same, but will be interpreted differently by the GSM intercom.**

PROGRAMMING BY TEXT MESSAGE

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

< **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 - 024	n/a	35 - 36
Store divert 1 telephone no.	STD	1111STDnnn"01912241559"	nnn = 001 - 024	n/a	35 - 36
Store divert 2 telephone no.	STE	1111STEnnn"01912243678"	nnn = 001 - 024	n/a	35 - 36
Store divert 3 telephone no.	STF	1111STFnnn"01912245326"	nnn = 001 - 024	n/a	35 - 36
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 - 024 pn = primary no. d1 = divert 1 no. d2 = divert 2 no. d3 = divert 3 no.	n/a	36
Store a dial to open no. (DTO) <u>or</u> Store up to 5 dial to open no's (DTO) in a single text message to the next available locations	STR	1111STRnnn"07771234567" 1111STR"n1""n2""n3""n4""n5" 1111STR"01912243174", "01912241559""01912243678", "01912245326""07897123456"	nnn = 000 - 999 <u>or</u> nnn = optional n1 = 1st DTO n2 = 2nd DTO n3 = 3rd DTO n4 = 4th DTO n5 = 5th DTO	n/a	36 - 38
Delete a dial to open no. (DTO) without knowing it's location	DET	1111DET"01912243174"	n/a	n/a	38
Store a temporary dial to open no. (DTO), store up to 32 temp no's max.	TDR	1111TDR"tele"T? (note: if T is omitted default time T = 8 hours)	tele = tel no. to store T = 1 - 255 hrs	n/a	38
Set call time	SPT	1111SPTnn	nn = 01 - 12	02 *(40s)*	38 - 39
Set relay time	RLT	1111RLTnn	nn = 00 - 99	05 *(5s)*	39
Set auxiliary output AO time	A1T	1111A1Tnn	nn = 00 - 99	05 *(5s)*	39
Set auxiliary output AO mode	A1M	1111A1Mnn	nn = 00 - 02	01	39
Divert to next no. time	DIT	1111DITnn	nn = 01 - 99	15 *(15s)*	39
Check GSM signal strength	SIG	1111SIG?	n/a	n/a	39
Check software version	VER	1111VER?	n/a	n/a	40
Forced Dial/Dial a number	DLE	1111DLE"123"	n/a	n/a	40
Change 4 digit code	CDE	1111CDE1234	Any 4 digits	1111	40
Trigger the relay	RLY	1111RLY	n/a	n/a	40
Trigger the auxiliary output AO	A1O	1111A1O	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	41

Programming the GSM Intercom

Store master telephone no.	**STM**	1111STM"07771234567"	n/a	n/a	41
Latch the relay	**RLA**	1111RLA	n/a	n/a	41
Unlatch the relay	**RUL**	1111RUL	n/a	n/a	41
Latch the auxiliary output AO	**A1L**	1111A1L	n/a	n/a	41
Unlatch the auxiliary output AO	**A1U**	1111A1U	n/a	n/a	41
Store timeband for call buttons to be active for	**TBA**	1111TBA"HHMMHHMM",days	HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	00002359 AD (all days)	41 - 42
Store timeband(s) for access control: proximity and dial to open numbers to be active for	**ATB**	1111ATBn"HHMMHHMM",days	n = 0 - 9 HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE	n/a	42 - 43
Store access levels for access control: proximity and dial to open numbers to be active for	**ACC**	1111ACCn"ttttttttt"	n = 0 - 9 each t = 1 or 0	n/a	43 - 44
Using access levels with dial to open numbers (DTO)	**STR**	1111STR"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	44
Check/Set date & time	**CLK**	1111CLK"yy/mm/dd,hh:mm"?	yy/mm/dd,hh:mm	n/a	44 - 45
Silent dialling mode	**AUE**	1111AUEnn	nn = 00 or 01	01	45
Send tone after answer (But 1)	**DTP**	1111DTPn	n = 0 - 9 or X	X	45
Send tone after answer (Div 1)	**DTD**	1111DTDn	n = 0 - 9 or X	X	45
Send DTMF tone delay	**DTT**	1111DTTnn	nn = 01 - 12	03	45
Enable dial 0 on answer function	**EDZ**	1111EDZnn?	nn = 00 or 01	00	45 - 46
Enable # (hash) function	**ED#**	1111ED#nn?	nn = 00 or 01	00	46
Enable proximity	**EPR**	1111EPRnn?	nn = 00 or 01	00	46
Proximity number of bytes to check	**PBY**	1111PBYnn?	nn = 02, 03 or 04	02	46
Store a fob/card in a known location **or** the next available location	**FOB**	1111FOBnnn"site""user" or 1111FOB"site""user"	nnn = 000 - 999 **or** nnn - optional	n/a	46
Store a fob/card in a known location **or** the next available location with an access level	**FOB**	1111FOBnnn"site""user"An or 1111FOB"site""user"An	nnn = 000 - 999 **or** nnn - optional An = A0 - A9	An default = all access unless specified	46 - 47
Find a fob or card number	**FDF**	1111FDF"user code"	n/a	n/a	47 - 48
Delete a fob or card without knowing its location	**DEF**	1111DEF"12345"	n/a	n/a	48
Free access timebands including output setup with latch or momentary trigger	**FRE**	1111FREn"HHMMHHMM",days:m:o	n = 0 - 9 HHMMHHMM days = Mo, Tu, We, Th, Fr, Sa, Su, AD, WD and WE m = L or M o = RL, A1 or A2		48 - 49
Clear all free access timebands	**FRD**	1111FRD?	n/a	n/a	49
Find a telephone number	**FDT**	1111FDT" number or ends in"	n/a	n/a	49
End on Last Divert	**EOD**	1111EODnn?	nn = 00 or 01	00	49 - 50

Programming the GSM Intercom

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Shutdown and Restart	RBT	1111RBT	n/a	n/a	50
Simulate button press via SMS	BUT	1111BUTnn	nn = 01 - 24	n/a	50
Enable extended output time	EXO	1111EXOnn?	nn = 81 - 87 or 32 disabled	32	50
Obtain the GSM's IMEI number	IME	1111IME?	n/a	n/a	51
Unlatch prevention feature	LLA	1111LLAnn?	nn = 00 or 01	00	51
Network connection indication	CON	1111CON?	n/a	n/a	51
Setup the GSM for data communication	APN	1111APN"apn""username", "password"?	n/a	n/a	51 - 52
Store a username & password for each GSM for online events	PAS	1111PAS"username""password"?	n/a	m/a	52
Enable online events for the GSM module	ENE	1111ENEnn?	nn = 00 or 01		53
Setup port forwarding for connection to a Server	SER	1111SER"IP",PORT?	n/a	n/a	53
source of time/date updates	NTZ	1111NTZnn?	nn = 00, 01 or 02	01	53 - 54
TC Time Zone for countries ahead of UTC	TZ+	1111TZ+nn?	nn = 00 - 48	00	54
TC Time Zone for countries behind UTC	TZ-	1111TZ-nn?	nn = 00 - 48	00	54
Daylight savings time adjustment	DST	1111DSTnn?	nn = 00 - 01	01	54
Send global announcement feature	SGA	1111SGA"text"	text = up to 150 characters max.	n/a	55

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

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

When sending text messages there may be a delay from when you send the message to when it is received by the GSM intercom depending on how congested the network is. If you are at the door panel when sending the message you will hear a short single beep from the GSM intercom to indicate it has successfully received the message. For unsuccessful (error) messages the GSM intercom will indicate this with two long beeps.

STORING THE CALL BUTTON TELEPHONE NUMBERS (STN, STD, STE AND STF)

Telephone numbers can be stored for the 24 available call buttons. Each call button can call up to four telephone 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 button is pressed. The STD, STE and STF codes stores the diverted telephone numbers if the first is busy or not answered (the GSM intercom will divert to the 2nd number then divert to the 3rd number and finally the 4th number). The messages to store/check numbers are as follows (replace STN with STD, STE or STF when storing/checking divert numbers).

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

nnn is a button number between 001 & 024. The telephone number y can be a maximum of 30 digits. For example: to store the number 01912243174 for button 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 intercom:

<div align="center">

1111STN005"01912243174"

</div>

1111STD005"01912241558"

1111STE005"07771234567"

1111STF005"01912241559"

IMPORTANT NOTE: When sending the command 1111STNnnn? to query the telephone number stored for the call button the GSM will reply with the list of all the numbers stored for that call button i.e. the primary number and the 3 divert numbers as shown in the example below *.

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

MEM (DIVERT 2)
001 = 0771234567
OK VIDEX GSM

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

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

1111STNnnn"pn" (or 1111STNnnn"yyyyyyyyyy") 1111STNnnn"pn","d1" 1111STNnnn"pn","d1","d2" 1111STNnnn"pn","d1","d2","d3"	Store the primary number and respective divert numbers in position nnn, (where pn = primary number, d1= 1st divert, d2 = 2nd divert, d3 = 3rd divert and nnn = call button 001 - 024).
1111STNnnn"pn"? (or 1111STNnnn"yyyyyyyyyy"?) 1111STNnnn"pn","d1"? 1111STNnnn"pn","d1","d2"? 1111STNnnn"pn","d1","d2","d3"?	Store the primary number and respective divert numbers in position nnn, (where pn = primary number, d1= 1st divert, d2 = 2nd divert, d3 = 3rd divert and nnn = call button 001 - 024), 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 button 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 intercom instead of sending 4 individual text messages:

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

Similarly if only the primary number (pn) and 1st divert number (d1) were only required for button 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:

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

Remember to include " and , where appropriate.

STORING A DIAL TO OPEN NUMBER (STR)

Dial in door release allows users to release the door/gate simply by dialling the telephone number of the SIM in the GSM intercom panel. The intercom panel will check the callers ID when it receives a call and if it matches the list of stored numbers, it will clear the call down (avoiding the caller being charged for the call) and will activate the relay for the programmed time. Up to 1000 numbers can be stored (000 - 999). The messages to check, store or delete numbers are as follows.

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

Programming the GSM Intercom

<u>IMPORTANT NOTE:</u> **It is important to switch OFF voicemail and automatic SMS features on the SIM card in the GSM intercom when using this feature (see the 'Forced Dial' section, DLE page 40, for more details). Also note that it will not be possible to use the dial in to speak facility from a number stored to release the door/gate when dialling in (door release takes priority).**

Please also note it is important that the number stored, when dialling in to release the door/gate, must have any "caller ID" or "withhold or witheld number" function switched OFF on the telephone/mobile that is making the call to the GSM intercom. If this feature is not switched OFF the GSM intercom will not recognise the caller's number and no further action will take place.

STORING UP TO 5 DIAL TO OPEN NUMBERS IN A SINGLE TEXT MESSAGE TO THE NEXT AVAILABLE LOCATIONS (STR)

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 STR programming command the text messages used to store/check the dial to open numbers are as follows.

1111STR"n1" **1111STR"n1","n2"** **1111STR"n1","n2","n3"** **1111STR"n1","n2","n3","n4"** **1111STR"n1","n2","n3","n4","n5"**	Store the dial to open numbers (DTO) 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.
1111STR"n1" ? **1111STR"n1","n2"?** **1111STR"n1","n2","n3"?** **1111STR"n1","n2","n3","n4"?** **1111STR"n1","n2","n3","n4","n5"?**	Store the dial to open numbers (DTO) 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, 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, the following single text message would be sent to the GSM intercom instead of sending 5 individual text messages:

1111STR"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:

1111STR"01912243174","01912241558","07771234567"

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

1111STR"01912243174","01912241558","07771234567","01912241559","07897123456"?

The following reply will be received from the GSM:

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

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

<u>IMPORTANT NOTE:</u> **It should be noted that when programming multiple dial to open numbers (DTO) using this command the GSM 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 will skip to find the next available location that has enough space to store the numbers.**

For example: the DTO locations from 001 to 003 and locations from 006 to 008 may be 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:

1111STR" 01912243174"," 01912241558"," 07771234567"?

The GSM will reply with the following text:

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

DTO location	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*

Programming the GSM Intercom

In the example above although the DTO locations 004 and 005 are available the programming command sent to the GSM 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 will look for the next set of free locations that is able to accommodate the three DTO numbers. So in this case the GSM 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 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 STR code a start location, nnn, can be included in the programming command i.e. 1111STRnnn"n1","n2","n3","n4","n5". However when a start location is included, while the GSM 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: 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:

<div align="center">

1111STR004"01912243174","01912241558","07771234567"?

</div>

The GSM will reply with the following text:

<div align="center">

MEM OPEN 004 = 01912243174
MEM OPEN 005 = 01912241558
MEM OPEN 006 = 07771234567
OK VIDEX GSM

</div>

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

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

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

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

<div align="center">

NOT FOUND
OK VIDEX GSM

</div>

STORE A TEMPORARY DIAL TO OPEN NUMBER (TDR)

Using the following programming command **1111TDR"tele"T?** it is also possible to store a temporary dial to open number (DTO) in the GSM module. The time period **T** for the temporary code is in hours and can be from 1 up to 255 hours. The time will only begin counting down from when the temporary dial to open number (DTO) 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"T?	Store a temporary dial to open number **tele** for the time period **T** (where **tele** is the DTO number and **T** is the time period in hours from 1 - 255hours), also send a confirmation text back to the sender. Note that if **T** is omitted default time **T** = 8 hours.

SET CALL TIME (SPT)

The call time is the maximum time in seconds that a call can last before the intercom panel automatically clears the call down. The time can be from 20 seconds up to 240 seconds (4 minutes) and begins from when the call button is pressed. The default time is 40 seconds. The following messages are used to set/check the maximum call time.

1111SPTnn	Store the time nn x 20 seconds (e.g. nn = 03, time = 60 seconds).
1111SPTnn?	Store the time nn x 20 seconds (e.g. nn = 02, time = 40 seconds, refer to table below), also send a confirmation text back to the sender.
1111SPT?	Query the current stored time. A text message will be sent back to the sender showing the stored time (remember to multiply the number in the received text by 20 seconds).

nn multiplier:	nn = 01, time = 20 secs	nn = 02, time = 40 secs	nn = 03, time = 60 secs
	nn = 04, time = 80 secs	nn = 05, time = 100 secs	nn = 06, time = 120 secs
	nn = 07, time = 140 secs	nn = 08, time = 160 secs	nn = 09, time = 180 secs
	nn = 10, time = 200 secs	nn = 11, time = 220 secs	nn = 12, time = 240 secs

SET RELAY TIME (RLT)

The relay time can be from 01 – 99 seconds or latching (set the relay time to 00 for latched mode. In latch mode, the relay will stay energised until the **1111RUL** command is sent, also refer to **RUL** notes on page 41).

1111RLTnn	Store the relay time nn = time in seconds (e.g. nn = 05, time = 5 seconds).
1111RLTnn?	Store the relay time nn = time in seconds. Also send a confirmation text back to the sender.
1111RLT?	Query the current stored relay time. A text message will be sent back to the sender showing the stored relay time.

SET AUXILIARY OUTPUT AO TIME (A1T)

The auxiliary output AO time can be set from 01 - 99 seconds or latching (set the AO output time to 00 for latched mode. In latch mode the AO output will stay triggered until the relevant command is sent again to unlatch the AO output. This option is only available when the AO output mode, **A1M**, is set to mode 01. Please refer to the **A1M** commands below for more details).

1111A1Tnn	Store the AO time nn = time in seconds (e.g. nn = 05, time = 5 seconds).
1111A1Tnn?	Store the AO time nn = time in seconds. Also send a confirmation text back to the sender.
1111A1T?	Query the current stored AO time. A text message will be sent back to the sender showing the stored AO time.

SET AUXILIARY OUTPUT AO MODE (A1M, MODES 00 - 02)

The auxiliary output AO has up to 3 modes that can be set:

Call Activated (on during a call): nn = 00
AO output will activate when a call begins and deactivate when a call ends. refer to **Fig.21**, page 22.

User Activated (on when triggered): nn = 01 (default)
To activate the AO output either short terminals g to 5 (auxiliary 1 input AI) on the GSM intercom or press 6 on the telephone during a call. Refer to **Fig.22**, page 22.

Call Activated (Timed, on at the beginning of the call for the programmed AO time): nn = 02
AO output will activate when a call begins and deactivate when the auxiliary 1 output time (**A1T**) expires. Refer to **Fig.23**, page23.

1111A1Mnn	Store the AO mode nn = 00 - 02.
1111A1Mnn?	Store the AO mode nn = 00 - 02. Also send a confirmation text back to the sender.
1111A1M?	Query the current stored AO mode. A text message will be sent back to the sender showing the stored A1O mode.

DIVERT TIME (DIT)

The divert time is the number of seconds to wait for a call to be answered before diverting to the 2nd, 3rd and 4th number. The default time is 15 seconds (the count down begins from when the call button is pressed, but is refreshed when the telephone begins to ring) and can be set from 01 – 99 seconds.

1111DITnn	Store the divert time nn = time in seconds (e.g. nn = 15, time = 15 seconds).
1111DITnn?	Store the divert time nn = time in 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 intercom can be checked (also see notes on understanding the signal strength on page nn). It is advisable that when the GSM is first setup and before any other programming is carried out to check the signal strength of the GSM intercom. If the signal strength is too low the GSM intercom may not operate properly and 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 intercom and send a confirmation text back to the sender.

Programming the GSM Intercom

CHECK SOFTWARE VERSION (VER)

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

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

FORCED DIAL/DIAL A NUMBER (DLE)

A useful feature of the GSM intercom panel is its ability to call a number sent to it in a text message. This feature can be used when setting up the SIM card. For example, disabling the voicemail facility or disabling automatic SMS messages or missed calls. Any number up to 15 digits can be called and the call will last for a maximum of 40 seconds. The example below would switch off voicemail on a Vodafone SIM card. Substitute the Vodafone number for other service providers.

1111DLE"1210"	Dial 1210 for the intercom panel.

Other useful numbers which can be used with this feature are as follows. Please also check the service provider's web sites for other useful codes.

	Vodafone	O^2
DISABLE VOICEMAIL	1210	1760
DISABLE TEXT ALERTS	#148#	1760

IMPORTANT NOTE: Disabling voicemail and text alerts is very important as there is no way to retrieve either of these services from a GSM intercom panel. Disabling these features will also prevent the intercom panel switching to voicemail or sending a text when dialling in from another phone.

CHANGE THE FOUR DIGIT CODE (CDE)

The four digit code can be any combination of numbers between 0-9 but must be 4 digits long. The code allows access to the programming menu in dial in mode and must be used when sending text messages to the GSM intercom panel. Use the following message to change the code.

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

TRIGGER THE RELAY (RLY)

There are several ways to trigger the GSM relay. The first is to press button 3 on the telephone during a call and the relay will operate for the programmed time. Another way is to send the following text message.

1111RLY	Operate the GSM relay (for the programmed time).
1111RLY?	Operate the GSM relay (for the programmed time) and send a confirmation text back to the sender.

TRIGGER AUXILIARY OUTPUT AO (A1O)

It is possible to trigger the auxiliary output AO for the programmed **A1T** output time (please note that this method of triggering auxiliary output AO is only possible when the **A1M** mode has been set to mode 01, refer to previous pages and the example on page 22, **Fig.22**). The auxiliary output AO can be triggered by pressing button 6 on the telephone during a call or by sending the following message to the GSM intercom.

1111A1O	Trigger auxiliary output AO (for the programmed A1T time).
1111A1O?	Trigger auxiliary output AO (for the programmed A1T time) and send a confirmation text back to the sender.

STORE BALANCE CHECK DIAL STRING (SDL)

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

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

IMPORTANT NOTE: Videx are only aware of the balance check dial string codes for the network providers mentioned above. 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 intercom will reply with the current balance stored on the SIM card.

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

In addition to this feature the GSM intercom 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:

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

2. The correct balance check string must be stored using the **SDL** code (see store balance check dial string on previous page).

3. 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) To store a master telephone number the following programming texts can be sent to the GSM intercom.

1111STM"yyyyyyyyyy"	Store the telephone number yyyyyyyyyy.
1111STM"yyyyyyyyyy"?	Store the telephone number yyyyyyyyyy 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 number for that location.
1111STM""	Delete the master telephone number stored.
1111STM""?	Delete the master telephone number stored and send a confirmation text back to the sender.

LATCH THE RELAY (RLA)

It is possible to latch the GSM intercom relay closed. This function is particularly useful if the GSM intercom relay is connected to a gate controller and the user wishes to 'hold open' the gate. The following text message can be sent to the GSM intercom.

1111RLA	Latch the GSM relay to the C/NO position.
1111RLA?	Latch the GSM relay to the C/NO position and send a confirmation text back to the sender.

UNLATCH THE RELAY (RUL)

If the GSM intercom relay has been latched it is possible to unlatch the relay with the following text message.

1111RUL	Unlatch the GSM relay back to the C/NC position.
1111RUL?	Latch the GSM relay to the C/NC position and send a confirmation text back to the sender.

IMPORTANT NOTE: **The GSM intercom relay can also be unlatched by pressing 3 on the telephone during a call.**

LATCH AUXILIARY OUTPUT AO (A1L)

The auxiliary output AO, like the onboard relay, can be latched. To latch auxiliary output AO the following text message can be sent to the GSM intercom.

1111A1L	Latch auxiliary output AO.
1111A1L?	Latch auxiliary output AO and send a confirmation text back to the sender.

UNLATCH AUXILIARY OUTPUT AO (A1U)

The auxiliary output AO can also be unlatched. To unlatch auxiliary output AO the following text message can be sent to the GSM intercom.

1111A1U	Unlatch auxiliary output AO.
1111A1U?	Unlatch auxiliary output AO and send a confirmation text back to the sender.

STORE TIMEBAND FOR CALLS TO BE ACTIVE FOR (TBA)

IMPORTANT NOTE: **This feature relies on the network providers time zone setting and also if they support NITZ (Network Identity and Time Zone). First check the time/date is correct by sending the SMS message 1111CLK? (also refer to check intercoms time & date feature on pages 44 - 45). 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 timeband feature allows the call buttons to be disabled or diverted to the master telephone number 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 and also ensure the start time is earlier than the stop time. The timeband can also be set for a specific day or days of the week to be active for by adding the day or days to the end of the programming command, see table below for the codes used for the days required.

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

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

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

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

1111TBA"08001700",AD?

The GSM intercom will reply with the following text:

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

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

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

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

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

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

STORE TIMEBAND FOR ACCESS CONTROL: PROXIMITY ACCESS & DIAL TO OPEN 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 (000 - 999) and also the dial to open numbers (**DTO**) to be programmed with up to 10 access control timebands (0 - 9). The access control timebands can be used to manage access rights (i.e. when fobs/cards can be active for if a proximity reader, VR4KPPM, is connected). In the case of dial to open (**DTO**) numbers the timebands feature enables and disables when the dial to open numbers can be used.

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

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

1111ATBn"HHMMHHMM",days	Store the time period for timeband n, where n = timeband no. (0 - 9) using this format: the first **HHMM** is the **start** time for fobs/cards and DTO to be active (i.e. 0845 for 8:45am in the morning) and the second **HHMM** is the **end** time when fobs/cards and DTO will stop being active (i.e. 1930 for 7:30pm at night) and where days = Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE.

1111ATBn"HHMMHHMM",days?	As above but also send a confirmation text back to the sender with the stored setting.
1111ATBn?	Query timeband n setting, where n = timeband no. (0 - 9) A text message will be sent to the sender with the stored timeband no., time period and days active for.
1111ATBn""	Delete timeband n, where n = timeband no. (0 - 9).
1111ATBn""?	Delete and confirm deletion of the timeband.

Example 1: To set timeband 0 to allow for proximity fobs/cards and/or dial to open numbers to be active between 8:00am in the morning up until 2:00pm in the afternoon and for weekends only, the following text can be sent to the GSM intercom, remembering to use 24hr clock notation:

<div align="center">

1111ATB0"08001400",WE?

</div>

The GSM intercom will reply with the following text:

<div align="center">

ATB0 = 08001400,Su,Sa
OK VIDEX GSM

</div>

Example 2: To set timeband 1 to allow for proximity fobs/cards and/or dial to open numbers to be active between 2:00pm in the afternoon until 3:00pm in the afternoon and for Mondays, Wednesdays and Fridays only, the following text can be sent to the GSM intercom, remembering to use 24hr clock notation:

<div align="center">

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

</div>

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

<div align="center">

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

</div>

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

<u>IMPORTANT NOTE:</u> **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 ACCESS CONTROL: PROXIMITY ACCESS & DIAL TO OPEN TO BE ACTIVE FOR (ACC)

The access levels feature (**ACC**) allows the 10 access control timebands (**ATB**) to be assigned to one of or a combination of up to 10 access levels (0 - 9). Once an access level has been setup they can then be assigned to a proximity fob/card using the **FOB** programming command (see pages 46 - 48) and assigned to a dial to open number using the **STR** programming command (described on the following page).

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

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

1111ACCn"tttttttttt"	Assign the timebands **tttttttttt** to access level n, where n = access level no. 0 - 9, each of the timebands **tttttttttt** = 1 or 0 (where 1 = timeband assigned and 0 = timeband not assigned), also refer to the **ACC** command string shown in **Fig.70**.
1111ACCn"tttttttttt"?	As above but also send a confirmation text back to the sender with the stored setting.
1111ACCn?	Query access level n, where n = access level no. 0 - 9 and send confirmation text back to sender with stored access level settings.
1111ACCn""	Delete access level n, where n = access level no. 0 - 9.
1111ACCn""?	As above but also send a confirmation text back to the sender confirming access level deleted.

<div align="center">

1 1 1 1 A C C n " t t t t t t t t t t " ?

```
                              0 1 2 3 4 5 6 7 8 9
        access level          timeband number        query
        number 0 - 9     where each letter t = 1 or 0   (optional)
```

</div>

Fig. 70

Example: Following the format of the **ACC** command string shown in **Fig.70** the access level **n** represents the access level number from **0 - 9**, e.g. if access level **8** is being programmed then **n** = **8** in the command string.

Each letter **t** in the command string represents which timeband(s) will be assigned to the access level and would be shown with the value of **1** (assigned) or **0** (not assigned), e.g. if the timebands **0, 2, 4, 6** and **8** were to be assigned to the access level then **"tttttttttt"** would be shown as **"1010101010"** in the command string.

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

<div align="center">

1111ACC8"1010101010"?

</div>

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

<div align="center">

AL8 = "1010101010"
OK VIDEX GSM

</div>

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

USING ACCESS LEVELS WITH DIAL TO OPEN NUMBERS (STR)

Access levels can be assigned to dial to open numbers using the **STR** programming command. 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 same format of the **STR** programming command (described on pages 36 - 38) the following text messages can be used to store dial to open numbers with access levels assigned to them and store them in the next available memory location(s).

1111STR"n1"An **1111STR"n1"An,"n2"An** **1111STR"n1"An,"n2"An,"n3"An** **1111STR"n1"An,"n2"An,"n3"An,"n4"An** **1111STR"n1"An,"n2"An,"n3"An,"n4"An,"n5"An**	Store the dial to open number(s) DTO 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.
1111STR"n1"An? **1111STR"n1"An,"n2"An?** **1111STR"n1"An,"n2"An,"n3"An?** **1111STR"n1"An,"n2"An,"n3"An,"n4"An?** **1111STR"n1"An,"n2"An,"n3"An,"n4"An,"n5"An?**	Store the dial to open number(s) DTO 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 STR 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 intercom to program the DTO numbers and access levels:

<div align="center">

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

</div>

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

<div align="center">

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

</div>

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.

CHECK/SET DATE & TIME (CLK)

The check date and time feature relies on the network providers time zone setting (refer to important notes on **NITZ** page 42). After a SIM has been placed into the GSM intercom 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 intercom to check and set the current time and date. The date and time format is as follows: yy/mm/dd, hh:mm, where yy = year, mm = month, dd = date and hh = hour, mm = minutes.

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

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

<div align="center">

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

</div>

The GSM intercom will reply with the following text:

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

SILENT DIALLING MODE (AUE)

When the GSM intercom is calling the telephone number stored there is a choice of either hearing the ringing tone from the intercom panel or just hearing beeps to indicate a call is in progress.

- Ringing heard during calling: nn = 01
- Beeps heard during calling: nn = 00

The following text messages can be sent to the GSM intercom to enable (00), disable (01) or query the setting of the silent dialling feature. By default this feature is disabled i.e. set to 01, a ringing tone will be heard whilst dialling the number.

1111AUEnn	Set the silent dialling mode nn: 01 or 00.
1111AUEnn?	Set the silent dialling mode nn: 01 or 00 and send a confirmation text back to the sender.
1111AUE?	Query the current mode stored. A text message will be sent back to the sender confirming which silent dialling mode has been set.

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

It is possible to set the GSM intercom to send a DTMF tone after a call is answered. This option is only available for both the primary number of button 1 and the divert 1 number for button 1. This feature is useful if the intercom 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. By default this feature is disabled. The following programming text messages 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 button 1.
- The DTD command sets the DTMF tone required (from 0 - 9) after divert 1 call is answered for button 1.
- The DTT command sets the delay time from when the call is answered to when the DTMF is sent.

SET DTMF TONE REQUIRED FOR BUTTON 1 PRIMARY CALL	
1111DTPn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for button 1).
1111DTPn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for button 1).
SET DTMF TONE REQUIRED FOR BUTTON 1 DIVERT CALL	
1111DTDn	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature (for divert 1).
1111DTDn?	Set DTMF tone required, where n = 0 - 9 for DTMF tones 0 - 9 or X to disable this feature. Also send a confirmation text back to the sender with the stored DTMF tone setting (for divert 1).
SET THE DELAY TIME FROM WHEN THE CALL IS ANSWERED TO WHEN THE DTMF TONE IS SENT	
1111DTTnn	Set the time nn, where nn = 01 - 12 seconds.
1111DTTnn?	Set the time nn, where nn = 01 - 12 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.
1111DTD?	Query the DTMF tone set, replies TD = n.
1111DTT?	Query the delay time set, replies TT = nn.

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 00). The following texts can be used to enable or disable this function.

1111EDZnn	Set the dial '0' function nn: 01 or 00 (01 = enable, 00 = disabled).
1111EDZnn?	Set the dial '0' function nn: 01 or 00 (01 = enable, 00 = disabled) also send a confirmation text back to the sender.
1111EDZ?	Query the dial '0' mode set.

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

ENABLE THE # (HASH) FUNCTION (ED#)

Once enabled the end user must press the # button on their phone before pressing any other button (also refer to the user command table on page 59) 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 00). The following texts can be used to enable or disable this function.

1111ED#nn	Set the # function nn: 01 or 00 (01 = enable, 00 = disabled).
1111ED#nn?	Set the # function nn: 01 or 00 (01 = enable, 00 = disabled) also send a confirmation text back to the sender.
1111ED#?	Query the # mode set.

ENABLE PROXIMITY READER (EPR)

IMPORTANT NOTE: As the VR4KGSM module does not have a built-in proximity reader a Wiegand proximity reader (VR4KPPM) must first be connected to the GSM intercom (refer to notes on page 19 for connection) and then enabled.

The Wiegand proximity reader can be enabled or disabled. By default this function is disabled. The following programming texts are used to enable or disable the proximity reader.

1111EPRnn	Set proximity reader nn: 01 or 00 (01 = enabled, 00 = disabled).
1111EPRnn?	Set proximity reader nn: 01 or 00 (01 = enabled, 00 = disabled) and send a confirmation text back to the sender.
1111EPR?	Query mode. A text message will be sent back to the sender confirming if the proximity reader is enabled or disabled.

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

This function will only be applicable if the Wiegand proximity reader (**VR4KPPM**) has been connected and enabled (see **EPR** function above). After the proximity reader is enabled the number of bytes that the reader checks is dependant on which type of proximity fob/card is used (also refer to the GSM PC software manual **GSMSK_66251720-EN_V2-2** (or later).

Understanding the Fob Format and Card Number

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

- **Fobs/Cards with 5 digit number (user code):** If a proximity fob/card has no site code but a 5 digit user code (e.g. 955/T or 955/C) the **PBY** format should be set to check for 2 bytes (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 desktop reader:** If using the PROXE 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, '02'. The following texts can be used to change this setting.

1111PBYnn	Set proximity reader to check for number of bytes nn: 02, 03 or 04 (02 = check for 2 bytes, 03 = check for 3 bytes, 04 = check for 4 bytes).
1111PBYnn?	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 to allow for easier set up and programming of the proximity reader. HID and Mifare cards cannot be used.

STORE A PROX FOB/CARD TO A KNOWN LOCATION (000 - 999) OR STORE IN THE NEXT AVAILABLE LOCATION (FOB)

Once the built-in proximity reader has been enabled and the number of bytes to check for has been set (refer to the **EPR** and **PBY**

setup previously described) the proximity fobs/cards can be programmed into the GSM intercom.

The GSM intercom can store up to 1000 fobs/card (000 - 999). The VR4KPPM proximity reader can be programmed with any one of the following fobs:

- **955/T or 955/C** = Videx fobs or cards. These fobs and cards have no site code and have a 5 digit user code, so the **PBY** function must be set to 02 (the default setting, checking for 2 bytes).
- **PBX1E or PBX2** = Portal Plus fobs or cards. These fobs and cards have a 3 digit site code and 5 digit user code, so the **PBY** function can be set to 02 or 03.

The following texts can be used to program fobs or cards.

1111FOBnnn"site","user"	Store fob/card in location nnn, where nnn = the memory location from 000 - 999 of where the fob/card is actually stored (see examples below for each type of fob/card). The "site" and "user" code is the number taken directly from the fob/card.
1111FOBnnn?	Query the fob/card stored in memory location nnn and send a confirmation text back to the sender with the stored fob/card details.

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

Example 1: Programming a **955/T** or **955/C** with no site code, a 5 digit user code of **12345** and storing it in memory location **001**, the following text can be sent to the GSM intercom:

<p align="center">1111FOB001"0","12345"</p>

(for these fob/card types a '0' must be inserted for the "site" code).

Example 2: Programming a **PBX1E** or **PBX2** with a 3 digit site code of 123, a 5 digit user code of **45678** and storing it in memory location **010**, the following text can be sent to the GSM intercom:

<p align="center">1111FOB010"123","45678"</p>

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 intercom with existing fobs and cards already programmed into it, but the locations of where they are stored is unknown. Using the FOB programming text string, but omitting the **nnn** (000 - 999) memory location from the command the following texts can be used to program fobs or cards to the next free memory location and confirm where the fob or card will be stored.

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

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

The same **FOB** programming command can also be used to assign an access level to a proximity fob/card. An access level can be assigned to fobs/cards and stored directly to a memory location by including **nnn** (000 - 999) in the command string or they can be stored in the next available location by omitting the memory location from the command string (see examples below). The following FOB programming commands can be used.

1111FOBnnn"site","user"An	Store fob/card in memory location nnn and assign access level An, where memory location nnn = 000 - 999 and where the access level An = A0 - A9. The "site" and "user" code is the number taken directly from the fob/card.
1111FOBnnn"site","user"An?	As above and also send a confirmation text back to the sender with the location of where the fob/card is stored and the access level it is assigned to.
1111FOB"site","user"An	Store fob/card in the next memory location available and assign access level An, where the access level An = A0 - A9. The "site" and "user" code is the number taken directly from the fob/card.
1111FOB"site","user"An?	As above and also send a confirmation text back to the sender with the location of where the fob/card is stored and the access level it is assigned to.

Example 1: Programming a **955/T** or **955/C** with no site code, a 5 digit user code of **21092**, storing it in memory location **004** and assigning it to access level **A5**, the following text can be sent to the GSM intercom:

<p align="center">1111FOB004"0","21092"A5?</p>

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

FOB 004 = 0000021092,A5
OK VIDEX GSM

Example 2:   Programming a **PBX1E** or **PBX2** with a 3 digit site code of **241**, a 5 digit user code of **15432**, storing it to the next free memory location (if locations 000 - 096 are occupied) and assigning it to access level **A3**, the following text can be sent to the GSM intercom:

1111FOB"241"""15432"A3?

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

FOB 097 = 0024115432,A3
OK VIDEX GSM

FIND A FOB OR CARD (FDF)

The find a fob or card feature allows the user to search and find the fob/card location (between 000 - 999) of where a proximity fob or card is stored in the GSM intercom. It locates the fob or card using the 5 digit user code printed on the fob (see the following example). The following text message can be used.

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

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

1111FDF"12345"?

The GSM intercom will reply with the following text:

STORED IN nnn
OK VIDEX GSM

where nnn = the fob/card location.

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

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

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

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

1111DEF"54321"?

The GSM intercom will reply with the following text:

DELETED
OK VIDEX GSM

FREE ACCESS TIMEBANDS (0 - 9) INC. OUTPUT SETUP WITH LATCH OR MOMENTARY TRIGGER (FRE)

The GSM intercom has up to 10 programmable free access timebands (0 - 9) that can be setup to operate the onboard relay or the auxiliary output AO. Both the relay and the auxiliary output can be set to latch or momentarily trigger for the programmed relay time **RLT** or programmed auxiliary output time **A1T** respectively. The timebands are programmed in the same way as the access control timebands (**ATB**) with a **start** time and an **end** time (using 24hr clock notation) which can be set for a specific day or days of the week to be active for.

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

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

The following text messages can be used to setup the free access timebands to activate the GSM's relay or the auxiliary output AO and setup the selected output for latch or momentary trigger. For the list of days refer to the Days table on page 42.

1111FREn"HHMMHHMM"days:m:o	Store the time period for free access timeband n, where n = timeband no. (0 - 9) using this format: the first HHMM is the **start** time to be active from (i.e. 0845 for 8:45am in the morning) and the second HHMM is the **end** time that will stop being active from (i.e. 1930 for 7:30pm at night), where days = Mo, Tu, We, Th, Fri, Sa, Su, AD, WD, WE, output trigger m = L for latch or M for momentary and output selection o = RL for relay or A1 for auxiliary 1.
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 the GSM's relay between 7:45am until 10:45am for the weekend only, the following text can be sent to the GSM intercom:

1111FRE7"07451045"WE:L:RL?

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 intercom will reply with the following text:

FA7 =07451045,Su,Sa,L,RL

OK VIDEX GSM

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

<u>IMPORTANT NOTE:</u> **If the selected output (relay: RL or auxiliary: A1) is setup for a momentary trigger the output will trigger for the programmed output time. Remember to set the output time using the respective programming code, i.e. for the relay use 1111RLTnn? and for the auxiliary output use 1111A1Tnn?**

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

CLEAR ALL FREE ACCESS TIMEBANDS (FRD)

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

1111FRD?	Delete all free access timebands, also send a confirmation text back to the sender.

FIND A TELEPHONE NUMBER (FDT)

The find a telephone number feature allows the user to find the dial to open location (between 000 - 999) of where a particular telephone number is stored in the GSM intercom. It can locate the number either from using the full telephone number or a minimum of the last 4 digits of a number (see following examples). The following text messages can be used.

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

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

1111FDT"01234567890"?

The GSM intercom will reply with the following text:

STORED IN nnn

OK

VIDEX GSM

(where nnn = the location where the dial to open number is stored).

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

1111FDT"4567"?

The GSM intercom will reply with the following text:

STORED IN nnn

OK

VIDEX GSM   (where nnn = the location where the dial to open number is stored).

END ON LAST DIVERT (EOD)

The end on last divert feature allows the GSM intercom 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 intercom will simply end the call. By default this feature is disabled (set to 00), but can be enabled (set to 01). The following programming commands can be used to set/check the end on divert function.

1111EODnn	Set end on last divert to nn, where nn = 00 (disabled) or 01 (enabled).
1111EODnn?	Set end on last divert to nn, where nn = 00 (disabled) or 01 (enabled). Also send a confirmation text back to the sender.
1111EOD?	Query the end on last divert status stored in the GSM module.

SHUTDOWN AND RESTART (RBT)

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

1111RBT	Shutdown and restart the GSM module.

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

SIMULATE A BUTTON PRESS VIA SMS MESSAGE FOR BUTTONS 01-24 (BUT)

It is possible to simulate a button press (for the call button range 01 - 24) on the intercom by sending the following programming command, shown below, to the GSM intercom. This feature can be useful if there is suspected fault with a call button or if there is an issue with the wiring for the buttons into the GSM's button matrix.

1111BUTnn	Simulate a button press for button number nn, where nn = button number 01 - 24.

The following commands are reserved for the technical department for interrogating the GSM module when testing and applying specific additional features that are not covered in this technical manual. For the application of these commands please contact Videx Technical on tel: **0191 224 3174**. For overseas customers please contact Videx customer support on tel: **(+39) 0734 631 699**.

ENABLE EXTENDED OUTPUT TIMES (EXO)

The extended output time feature **EXO** allows the existing output time of the GSM's relay (**RLT**) and the auxiliary output (**AO**) to be increased for every second programmed to be extended to 1 minute. For example if the relay time **RLT** was set to 5 seconds and the extended output feature was enabled then the relay time would become 5 minutes.

The extended output codes that can be used (refer to the **EXO code** table below) will allow one or a combination of the two outputs to have an extended output time. For example if code 82 was used then auxiliary output AO will have the extended output time feature enabled. So whatever the programmed auxiliary output time **A1T** is set to, the time will be in minutes and not seconds and this will be the time the output will activate for.

EXO code	Output	EXO code	Output	EXO code	Output(s)
81	Relay	82	AO	83	Relay and AO
32	disabled (default)				

By default this feature is disabled (set to code 32). The following texts can be used to set the extended output time.

1111EXOnn	Enable the extended output time for the required output(s) using EXO code nn, where nn = 81 - 83 (refer to EXO code table).
1111EXOnn?	As above and also send a confirmation text back to the sender of EXO code.
1111EXO?	Query the stored EXO code.

Example: To enable the extended output time of the GSM intercom's relay to 5 minutes, the GSM's relay time **RLT** must first be set to 5 seconds using the **1111RLT05** command. The following text message can then be sent to the GSM intercom:

1111EXO81?

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

EXO = 81
OK VIDEX GSM

In the example the extended output time for the GSM's relay has been enabled. Since the original relay time **RLT** has been set to 05, when it is triggered the relay will activate for 5 minutes instead of 5 seconds. As code 81 was used the auxiliary output AO will still only operate in seconds i.e. whatever the **A1T** has been set to.

IMPORTANT NOTE: **When the extended output time feature is enabled the respective output is still triggered in the same way i.e. the relay can still be triggered by pressing 3 on the phone during a call, triggered remotely by sending the text 1111RLY or if any dial to open numbers have been stored activated when a DTO number dials into the GSM intercom.**

OBTAIN THE GSM'S IMEI NUMBER (IME)

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

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

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

1111IME?

The GSM module will reply with the following text:

IMEI-357803045065535
OK VIDEX GSM

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

Therefore in order to obtain the GSM's IMEI number, which is located on the main hardware chip internally, use a SIM that is already registered with another network provider and fit it into the GSM module (following the procedure on page 27 for initialisation), then use the programming command above 1111IME? to obtain the GSM's IMEI number, so that when registering the actual SIM that will be used with the GSM module 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's relay or the auxiliary output) from being inadvertently unlatched by a programmed fob/card, DTO number or by pressing the relevant button (**3**) on the phone during a call. Even when this feature is enabled if the GSM's relay or the auxiliary output have been setup to latch they can still be unlatched using the relevant **1111RUL** or **1111A1U** programming command.

By default this feature is disabled (set to 00), but can be enabled (set to 01). The following programming commands can be used to enable/disable and check the unlatch prevention feature.

1111LLAnn	Set the unlatch prevention feature to nn, where nn = 00 (disabled) or 01 (enabled).
1111LLAnn?	Set the unlatch prevention feature to nn, where nn = 00 (disabled) or 01 (enabled). Also send a confirmation text back to the sender.
1111LLA?	Query the status of the unlatch prevention feature stored in the GSM module.

NETWORK CONNECTION INDICATION (CON)

As well as checking the power & network status indication LED on the back of the 4G GSM intercom (**Fig.7**, Ⓖ page 12) to check which network type (**2G**, **3G** or **4G**) the GSM intercom is connected to, the following command **1111CON?** can be sent to the GSM intercom.

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

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

1111CON?

The GSM intercom will reply with the following text:

CON=nG
OK VIDEX GSM

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

SETUP THE GSM INTERCOM FOR DATA COMMUNICATION (APN)

The GSM intercom 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 for data communication:

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

Programming the GSM Intercom

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

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 the **apn** = **payandgo.o2.co.uk**, **username** = **payandgo** and **password** = **password**, the following message can be sent to the GSM intercom:

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

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

APN=payandgo.o2.co.uk
payandgo
password
OK VIDEX GSM

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

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

It is recommended that after changing the **APN** details to reboot the GSM intercom using the **1111RBT** command (also see **RBT** notes on page 50).

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

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

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

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

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

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

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

PAS=videx-tech-1
gsm-tech-1
OK VIDEX GSM

ENABLE ONLINE EVENTS FOR THE GSM MODULE (ENE)

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

By default this feature is disabled (set to 00), but can be enabled (set to 01). The following programming commands can be used to enable/disable and check the status.

1111ENEnn	Enable the online events feature, where **nn** = 00 (disabled) or 01 (enabled).
1111ENEnn?	Enable the online events feature, where **nn** = 00 (disabled) or 01 (enabled). Also send a confirmation text back to the sender.
1111ENE?	Query the status (enabled or disabled) of the events feature.

Further notes on how to complete the online events setup can be found on page 62 - **Managing GSM events remotely**.

SETUP PORT FORWARDING FOR CONNECTION TO A SERVER (SER)

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

Also in order for the remote 'over the air' feature to work port forwarding needs to be setup on the router where the PC connects to so that the GSM module can forward and receive packets from it, to do this follow the setup and configuration instructions on Videx application note **AN0046_RemotelyProgramming4GIntercomsViaPCSoftware**.

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

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

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

SOURCE OF TIME/DATE UPDATES (NTZ)

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

- **mode 00:** no clock setting at all i.e. the GSM receives no automatic time updates.
- **mode 01:** 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 02:** the time is taken from an online clock using the **NTP** protocol where the GSM module is able to synchronise its clock with an online **NTP server**.

By default the 4G GSM module is set to **mode 01**, whereby it will try to automatically synchronise with the network providers clock setting via **NITZ** (network identity & time zone) providing that the network supports **NITZ**, also refer to **important note** regarding **NITZ** on page 41. The following programming commands can be used to set and confirm the required mode.

1111NTZnn	Set the mode of the GSM's internal clock to obtain the current time & date updates, where **nn** = 00 (no automatic time updates), 01 (default, time taken from the phone network provider) or 02 (time taken from an **NTP server**, **UTC** time).
1111NTZnn?	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 02** 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 02** is set the following 3 additional programming commands become available to the user: **TZ+, TZ-** and **DST.** These additional commands allow the user (depending on where/which country in the world they are installing the GSM intercom module) to manually setup the GSM in the correct **Time Zone** using the **TZ+** or **TZ-** commands and if the **Time Zone** they are in also requires a daylight savings time adjustment then they can use the **DST** command.

IMPORTANT NOTE: It should be noted that the coordinated universal time (UTC) is the basis for civil time today. This 24-hour time standard is kept using highly precise atomic clocks. Therefore when setting up the TZ+, TZ- and DST automatic time

correction features the Time Zone (UTC+0) used is taken from the GMT UK based time of '0', i.e. Time Zone (UTC+0) = UK standard time (GMT) = 0.

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

If the GSM module is being installed in a **Time Zone** ahead of **Time Zone (UTC+0)** then the command **1111TZ+nn** can be used to set the correct time ahead. The time adjustments are made in increments of 15 minutes (e.g. 1 increment = 15 minutes), so an hour adjustment ahead of **Time Zone (UTC+0)** will be equal to **04** increments, an adjustment of 2 hours ahead of **Time Zone (UTC+0)** will be equal to **08** increments and so on.

By default the value **nn** is set to **00** (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+nn	Adjust the GSM's time zone ahead of **Time Zone (UTC+0)** by **nn** increments, where **nn** = value between 00 (default) to 48.
1111TZ+nn?	As above and also send a confirmation text back to the sender.
1111TZ+?	Query the time zone adjustment setting and send a confirmation text to the sender.

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

If the 4G GSM module is being installed in Rome, Italy and the network provider used does not support **NITZ**, the **NTZ** command would be set to **mode 02 = 1111NTZ02**. As the European time zone = 1 hour ahead of **Time Zone (UTC+0)** the adjustment will be 4 increments of 15 minutes = 1 hour. Therefore the following command can be sent to the 4G GSM module:

1111TZ+04?

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

TZ+04
OK VIDEX GSM

UTC TIME ZONE FOR COUNTRIES BEHIND UTC (TZ-)

If the GSM module is being installed in a **Time Zone** behind **Time Zone (UTC+0)** then the command **1111TZ-nn** 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 = 15 minutes), so an hour adjustment behind **Time Zone (UTC+0)** will be equal to **04** increments, an adjustment of 2 hours behind **Time Zone (UTC+0)** will be equal to **08** increments and so on.

By default the value **nn** is set to **00** (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-nn	Adjust the GSM's time zone behind **Time Zone (UTC+0)** by **nn** increments, where **nn** = value between 00 (default) to 48.
1111TZ-nn?	As above and also send a confirmation text back to the sender.
1111TZ-?	Query the time zone adjustment setting and send a confirmation text to the sender.

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

If the 4G GSM module is being installed in New York, USA and the network provider used does not support **NITZ**, as with the **TZ+** command in the previous example the **NTZ** command would be set to **mode 02 = 1111NTZ02**. Since New York is on the Eastern coast of the USA it falls into the Eastern Standard Time (**EST**) time zone = 5 hours behind **Time Zone (UTC+0).** The adjustment will therefore be 20 increments of 15 minutes = 5 hours. The following command can be sent to the 4G GSM module:

1111TZ-20?

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

TZ-20
OK VIDEX GSM

DAYLIGHT SAVINGS TIME ADJUSTMENT (DST)

If the GSM module is being installed in a time zone that allows for daylight savings time then the automatic **DST** adjustment feature can be enabled or disabled. By default this feature is enabled, set to 01. The following command can be used to enable or disable this feature.

1111DSTnn	Enable/disable the daylight savings time feature, where **nn** = 00 (disabled) or 01 (enabled).
1111DSTnn?	As above and also send a confirmation text back to the sender.
1111DST?	Query the status of the daylight savings time feature stored in the GSM module.

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

SEND GLOBAL ANNOUNCEMENT FEATURE (SGA)

It is possible to send out a global announcement text message to all the call button numbers stored (primary and divert numbers) in the GSM module. The message can be up to 150 characters in length max. The feature is particularly useful if an urgent message needs to be sent out to all users that use the GSM intercom 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.

The GSM Mobile App

VIDEX SMS ACCESS, SMS WIZARD & SMS WIZARD PRO

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

The mobile apps can be used to simplify the programming of the GSM intercom using SMS messages. The SMS wizards generate the text message required to communicate with the GSM intercom. Depending on the model of the GSM (GSM PRO, 4G GSM, Digital GSM, GSM Lite, GSMVRK and 2270 GSM module) text messages can be generated to program features such as access codes, proximity access fobs/cards, dial to open (**DTO**) telephone numbers, assign pre-existing access levels, free access periods and call button/apartment telephone numbers.

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

WHERE TO DOWNLOAD THE MOBILE APPS AND GETTING STARTED

The GSM mobile apps are available for both Android smart devices (mobile smartphones and tablets) and also Apple iOS (iPhones and iPads) and can be downloaded for free from the Google Play Store (for Android devices) and the App Store (for iOS devices).

Before using mobile apps, the following details will be required for initial setup:

- **Model of the GSM intercom module** - e.g. **Art.4810/4G** (4G GSM), **Art.4812** or **Art.4812R** (Digital GSM) etc.

- **Firmware level of the GSM intercom** - e.g. for the **VR4KGSM/4G (Art.150/4G)** the firmware might be **VR1.2.3** (the current firmware version of the GSM module can usually be found on the label on the back of the GSM intercom or by sending the text message **1111VER?** to obtain the firmware version, also refer to notes on page 40).

- **Telephone number of the GSM intercom** - i.e. the mobile number of the SIM card being used in the GSM module.

- **Master code of the GSM intercom** - i.e. the 4 digit code used for programming, by default this is set to '**1111**'. In the event that this code has been forgotten or lost please refer to '**change the 4 digit master code (CDE)**' notes on page 40 or '**resetting the master code to 1111**' notes on page 28 to reset the code back to factory default if required.

If the **SMS Access** or **SMS Wizard** app is downloaded and installed it is recommended that you first tap on the help icon ⑦ 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 ⑦ 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 ⑦ (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.71**.

Fig. 71

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 FROM THE GSM INTERCOM

When the GSM is in standby all the LED's (speak, busy and open) on the front of the intercom will be switched OFF, as shown in **Fig.72**.

To make a call press the call button required. The GSM intercom will emit two beeps and the busy LED will switch ON to indicate a call is in progress and the system is busy, see **Fig.73**.
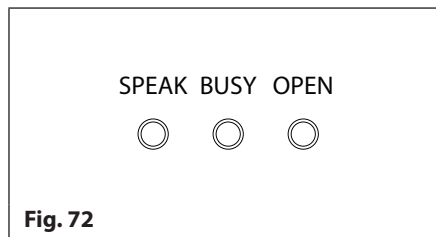
SPEAK BUSY OPEN

Fig. 72
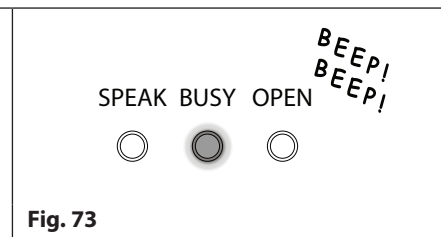
BEEP!
BEEP!
SPEAK BUSY OPEN

Fig. 73

When the call is answered the speak LED will switch ON, as shown in **Fig.74**, and a conversation between the caller and the user can take place.

The busy LED will stay switched ON for the duration of the call and switch OFF at the end of the call when the user hangs up the phone or if the call time **SPT** expires (also refer to **SPT** notes on pages 38 - 39).

__IMPORTANT NOTE:__ If the same button is pressed again after five seconds of placing the initial call this will also clear the call down. Pressing the same button before the five seconds is up will do nothing.
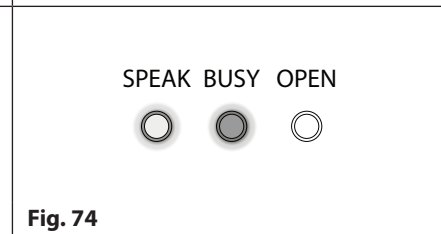
SPEAK BUSY OPEN

Fig. 74

DIVERTED CALL

First make a call from the GSM intercom, as described above. If any divert numbers are programmed and the primary number is not answered the GSM will then dial the divert number(s) after the programmed divert time **DIT** has elapsed (also refer to **STD**, **STE** and **STF** divert number programming on pages 35 - 36 and **DIT** divert time setup on page 39).

__IMPORTANT NOTE:__ **When the GSM intercom diverts to a programmed divert number there will be a brief pause before the intercom then proceeds to dial the divert number. This is normal behaviour from the GSM module. If the silent dialling mode AUE has been left on default (i.e. silent dialling mode disabled) a normal telephone dial tone will be heard from the GSM's speaker after the brief pause to indicate that the divert number is being called.**

DOOR/GATE RELEASE (INLCUDING LATCHING AND UNLATCHING THE GSM RELAY)

After a call has been answered (either from a direct call or diverted call) to activate the relay to trigger the door/gate press **3** on the telephone. The open LED will switch ON and the GSM intercom will emit a single beep at 1 second intervals for the duration of the relay time **RLT** (refer to relay time **RLT** setup on page 39), as shown in **Fig.75**. After the relay time has elapsed it will then switch OFF.

Pressing **1** followed by **0** will latch the relay (door/gate) in the open position. In this instance the open LED will stay ON until the relay has been unlatched. To unlatch the relay press **3** on the telephone and the door/gate will unlatch after the programmed **RLT** time or send the SMS text message **1111RUL** (also refer to unlatch the relay notes on page 41 and the user command table on page 59 for other useful commands).
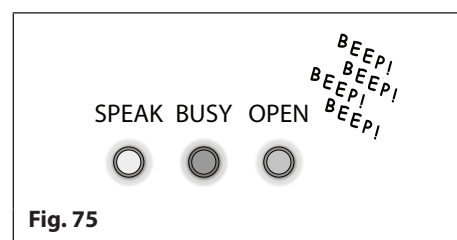
BEEP!
BEEP!
BEEP!
SPEAK BUSY OPEN BEEP!

Fig. 75

__IMPORTANT NOTE:__ **The only instance when pressing 3 on the phone will not unlatch the relay is when the unlatch prevention feature LLA has been enabled i.e. set to 01. The unlatch text message however, 1111RUL, will still unlatch the relay as normal.**

RELEASING THE DOOR/GATE BY DIALLING THE GSM INTERCOM (DIAL IN DOOR RELEASE STR)

Releasing the door/gate by dial in door release **STR** is only possible if the caller's number has been stored correctly for this feature (also refer to store dial to open no. notes on pages 36 - 38 for correct setup).

Simply dial the mobile number of the SIM in the GSM intercom. The GSM intercom will recognise the stored dial to open number calling and the busy and open LED's will switch ON, as shown in **Fig.76**. The GSM will drop the call and open the gate/door for the programmed **RLT** time, after the relay time has elapsed the busy and open LED's will switch OFF.

SPEAK BUSY OPEN

Fig. 76

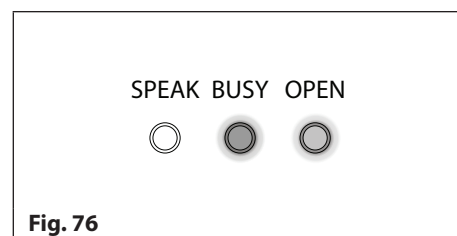__IMPORTANT NOTE:__ **For this function to operate correctly the stored dial to open number must have any "caller ID" feature or "witheld number" feature switched OFF. If this feature is not switched OFF on the number making the call to the GSM intercom then the GSM module will not recognise the caller's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

USING A PROXIMITY READER (ONLY APPLICABLE IF AN ART.VR4KPPM READER IS CONNECTED)

In order for the **Art.VR4KPPM** proximity reader to work correctly it must first be connected to the GSM intercom using the 'plug-in' proximity harness as shown in **Fig.16** on page 19 and the proximity reader enabled (also refer to enable proximity reader **EPR** notes and proximity bytes **PBY** notes on page 46 for correct setup).

Fobs/cards must also be stored in the GSM intercom following the store a fob or card **FOB** programming notes on pages 46 - 48. Programming fobs/cards can also be carried out using the GSMSK PC software, more information on this can be found in the technical manual **GSMSK_66251720-EN_V2-2** (or later).

PRESENTING A FOB/CARD TO THE READER

When the system is in standby all the LED's (speak, busy and open) on the front of the GSM intercom will be switched OFF. The amber LED on the reader will flash at 5 second intervals to indicate there is power on ther reader, see **Fig.77**.

ACCESS GRANTED

To operate the GSM relay present a programmed fob/card to the proximity reader. The busy LED on the GSM intercom will flash once, the open LED will switch ON and the GSM will emit a single beep at 1 second intervals for the duration of the relay time **RLT**. The access granted LED (middle green LED on the reader) will also switch ON for the duration of the GSM relay time and the reader will emit a single beep, see **Fig.78**.

ACCESS DENIED

If a fob/card is presented to the reader that has not been programmed then the busy LED on the GSM intercom will switch ON for approximately 2 seconds and the GSM will emit a long single beep. The access denied LED (right red LED on the reader) will also switch ON for approximately 2 seconds and the reader will emit a single beep, see **Fig.79** The GSM's relay will not operate.

<u>IMPORTANT NOTE:</u> **If the proximity reader has not been enabled and a fob/card is presented the reader will not respond (however the amber LED will still continue to flash at 5 second intervals as normal).**

Fig. 77

Fig. 78

Fig. 79
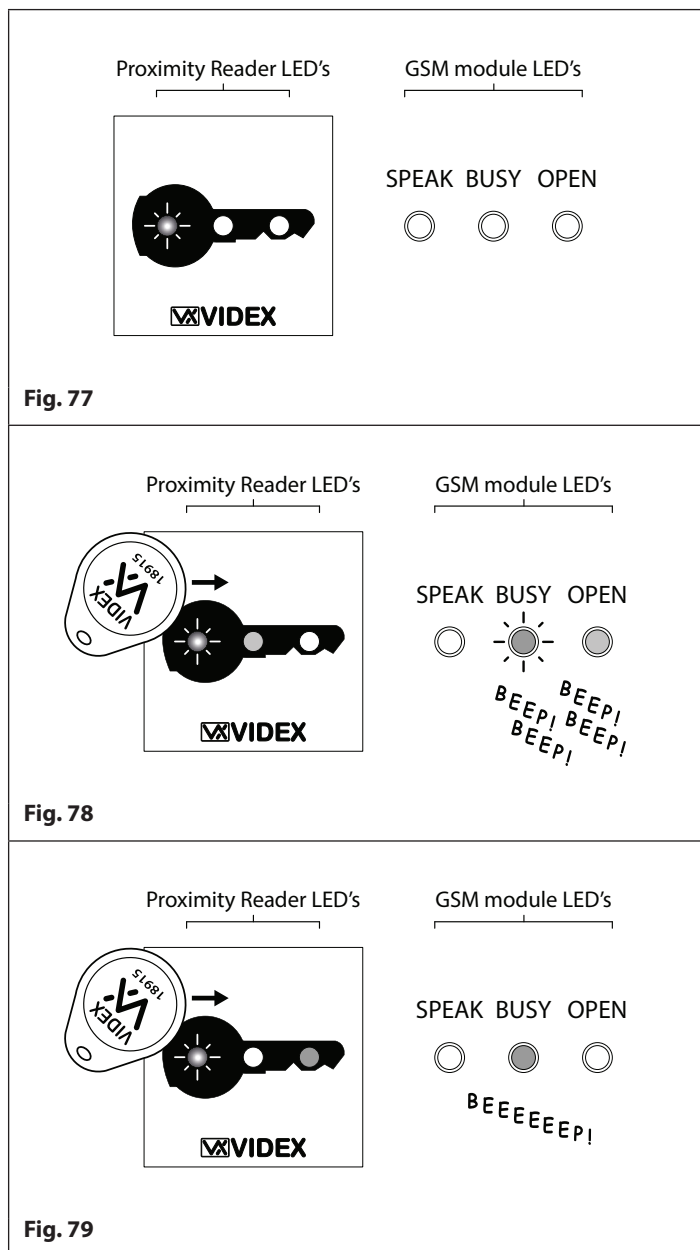
Additional user operations can be carried out using the commands and/or SMS text messages shown in the user command tables on page 59.

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 ED# function has been enabled the user must press the # button on their phone before pressing any of the following user commands (also refer to page 46 for further information).**

FUNCTION	1st KEY TO PRESS	2nd KEY TO PRESS
Latch the relay (unlatch by pressing 3)	1	0
Release the door or gate	3	n/a
Activate auxiliary output AO[1]	6	n/a
Adjust door speech volume (GSM speaker)	4	0 - 9 (0 = lowest, 9 = highest)
Adjust phone speech volume (GSM mic)	7	0 - 9 (0 = lowest, 9 = highest)

[1] - Activating auxiliary output **AO** in this way is only possible when **A1M** mode has been set to mode **01** (also see notes on page 39, 'set auxiliary output AO mode') and will operate for the programmed **A1T** time. If the **AO** output time has been set to latch simply press **6** on the phone to unlatch the output again.

IMPORTANT NOTE: **Remember if the unlatch prevention feature LLA has been enabled (set to 01), pressing 3 on the phone to unlatch the GSM's relay or pressing 6 on the phone to unlatch the auxiliary output AO will not work, however, the text messages 1111RUL and 1111A1U will still unlatch the respective outputs as normal.**

The next user command table shows the SMS text messages that can be sent to the GSM intercom while in standby (the examples shown in the table use the default 4 digit master code 1111).

FUNCTION	MESSAGE TO SEND
Check the signal strength	1111SIG?
Check the available balance[2]	1111BAL?
Check the software version	1111VER?
Release the door/gate	1111RLY? (? optional, send if confirmation is required)
Latch the relay	1111RLA? (? optional, send if confirmation is required)
Unlatch the relay	1111RUL? (? optional, send if confirmation is required)
Activate auxiliary output AO	1111A1O? (? optional, send if confirmation is required)
Latch auxiliary output AO	1111A1L? (? optional, send if confirmation is required)
Unlatch auxiliary output AO	1111A1U? (? optional, send if confirmation is required)
Check Time band setting (for call buttons)	1111TBA?
Query Access Control Timeband (0 - 9)	1111ATBn? (where n = timeband no. 0 - 9, also see notes on pages 42 - 43)
Query Access Level (0 - 9)	1111ACCn? (where n = access level no. 0 - 9, also see notes on pages 43 - 44)
Check Intercom Time and Date	1111CLK? (also see notes on pages 44 - 45)
Find a Dial to Open (DTO) number (000 - 999)	1111FDT"yyyyyyyyyyy"? (where yyyyyyyyyyy = telephone number, minimum of 4 digits, also refer to page 49)
Find a Fob or Card location (000 - 999)	1111FDF"nnnnn"? (where nnnnn = 5 digit user code printed on fob/card, also refer to page 48)

[2] - The balance can only be checked if the correct balance check string has been stored (also see **SDL** notes on page 40). This feautre is only applicable for pay-as-you-go SIM cards.

Additional User Information

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THE POWER TO SECURE

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

When a request for signal strength message is sent to the GSM intercom 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 intercom) is able to decode transmitted data (the data in this instance are the various text message commands used to **program the GSM intercom**, described on pages 33 - 55, speech and DTMF signals used by the GSM intercom 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 intercom 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 intercom:

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

To achieve the best overall performance from the GSM intercom a high signal strength **SIG** and low bit error rate **BER** is required. In the event that a low signal strength and high bit error rate is recieved it is recommended that the **Art.434 GSM 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 INTERCOM FROM ANOTHER TELEPHONE

There are three possible outcomes to dialling into the GSM intercom depending on the telephone number you are dialling in from and the features setup during programming. The three possible outcomes are shown in the table below and are shown in order of priority. For example, if the number is programmed to automatically activate the relay, this will take priority over the following two options and if the telephone number is stored as a telephone number called from one of the push buttons, this will take priority over the last option.

FUNCTION	REQUIREMENT	PRIORITY
Dial in to open the Door. After dialling the GSM number, the relay will activate and the call will be dropped.	The telephone number of the telephone dialling in must be stored in memory location *(*dial to open list) STR000 - STR999.	**1st**
Dial in to activate a call (live speech, activate relay/ auxiliary AO). After dialling the GSM number, the call will be answered and two beeps will be heard. The speech will then be live.	The telephone number of the telephone dialling in must be stored in memory location: STN001 - STN024 STD001 - STD024 STE001 - STE024 STF001 - STF024	**2nd**
Dial in to open the speech from a telephone number not stored in the GSM intercom. After dialling the GSM number, the call will be answered and two beeps will be heard. You will then be required to enter the 4 digit code to open the speech.	If neither of the two requirements above are met.	**3rd**

UNDERSTANDING THE BEEPS

Functions and errors are indicated by beeps from the GSM intercom panel. The following will help you understand the different beeps heard and what, if anything, needs to be done in response to the beeps.

BEEP	REASON	SOLUTION
Short beeps at 1 second intervals.	Relay or auxiliary output activated.	None, this is normal.
Single short beep while the system is in standby and not being used.	A valid text message has been received and processed.	None, this is normal.

Additional User Information

Two short beeps followed by a long beep.	Button pressed but no number stored.	Program a telephone number for the button pressed.
Two long beeps while the system is in standby.	Invalid text message received.	If this has happened when sending one of the programming text messages then check the message for errors. These beeps will also be heard if the 4 digit code in the text message is incorrect. If you are unsure of the 4 digit code, try resetting it to 1111.
Long beep followed by a brief delay then a short beep while the system is in use.	Manually ending a call by pressing a call button.	None, this confirms the call has been cancelled. Another call can be placed if required.
Four long beeps.	Not registered with a network provider but still trying.	Leave it a short while to see if it manages to find the network. If the beeps repeat every 30 seconds then try moving the antenna to a better location or changing the SIM to another network provider.
Six long beeps.	Unknown registering problem.	Try moving the antenna to a better location. Try changing the SIM card to another network provider.
Single short beep every 10 seconds after power up.	Unable to see the SIM card.	Check the SIM card is fitted correctly. Try removing the SIM card, cleaning and fitting again. Try a different SIM card.

PROXIMITY READER (ONLY APPLICABLE IF THE ART.VR4KPPM WIEGAND READER IS CONNECTED AND ENABLED)		
BEEP	**REASON**	**SOLUTION**
Successive short beeps lasting for the duration of the relay time.	A programmed fob/card is presented to the proximity reader.	None, this is normal.
Single long beep.	Fob/card presented to the proximity reader **is not** programmed.	Program the fob/card into the GSM intercom making sure the correct number of bytes is set for the type of fob/card used. Also ensure the proximity reader is enabled.
	Fob/card presented to the proximity reader **is** programmed in the GSM module however: 1. The number of bytes to check for maybe incorrect. 2. The fob/card may have an access level or timeband assigned to it.	Although the fob/card is programmed in the GSM module check one of the following: 1. Change the number of bytes to check for to 2 bytes (ensuring the reader is enabled). 2. Confirm if fob/card has any access levels and timebands assigned as it may be that the fob/card is supposed to have restricted access.
Single short beep and the proximity reader is unresponsive.	The proximity reader has not been enabled (regardless of whether fobs have or have not been programmed).	Enable the proximity reader.

User Management

RECORD SHEET

To manage the GSM intercom 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 intercom. 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 4.1.0.36 or later) to record and save the user's information as an excel spreadsheet using the **'Export'** feature. The **GSMSK** software can be used to record and save the 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 4000 stored events from the GSM module.

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

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

MANAGING GSM EVENTS REMOTELY

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

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

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

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

1. From the **'My Modules'** page select **'Add new unit'.**

2. Send the following SMS message to the GSM hardware to obtain it's unique 15 digit **IMEI** number:

    - **1111IME?** (please note: **1111** is the default engineers code)

3. Complete the following fields:
    - **IMEI** - 15 digit number obtained from step 2.
    - **Description** - e.g. Videx Front Door.
    - **Model** - Select a GSM model from the available drop down list.
    - **Username** - Create a **username** for the GSM module - minimum 6 characters.
    - **Password** - Create a **password** for the GSM module - minimum 6 characters.

4. Press the **'Register'** button and you will be returned back to the **'My modules'** page where the GSM module will now be listed.

5. Next send the following SMS message to the GSM module replacing **'username'** and **'password'** with the credentials created in step 3:

    - **1111PAS"username","password"?**

6. Determine the SIM card network providers **APN**, **username** and **password** details. This can usually be found on the network providers website (also refer to the table of **APN** details for the most common network providers in the UK on page 52).

7. Next send the following SMS message to the GSM module replacing the **APN**, **username** and **password** with the correct network providers information:

    - **1111APN"APN","username","password"?**

    e.g. the SMS message for an O2 payandgo would be **1111APN"payandgo.o2.co.uk","payandgo","password"?**

8. Finally to enable sending of events, send the following command to the GSM module:

    - **1111ENE01?**

Troubleshooting

SYSTEM CHECKS AND TESTING

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

SYMPTOM	TEST
Interference on the speech.	Check the signal strength **1111SIG?** (if the signal strength is too low the GSM module increases it's power to compensate, causing interference with the speech circuits). Try relocating the antenna or using a more powerful or directional antenna (e.g. high gain antenna).
	Ensure the antenna cables are not running close to the power supply cables or the microphone wires inside the intercom panel.
	Try a different SIM card from a different service provider as they may have better coverage in that area.
GSM module unresponsive.	Check the power supply has adequate voltage, 12Vdc minimum, as described earlier in this manual.
	Try a full reset (refer to page 28), powering up with the violet (d) and yellow (6) wires shorted.
	Try a different SIM card.
	The GSM intercom module may have a fault.
A long beep is heard when the button is pressed.	No telephone number setup for that button. Check the programming.
	Check the SIM card is fitted correctly (refer to page 27).
The intercom panel 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 intercom panel).
	After sending an SMS message to the GSM intercom listen for a single short beep from the intercom panel. This will indicate that the message was received and understood. If two long beeps are heard it indicates the message was either not understood **or** the 4 digit master code was incorrect.
	Try resetting the 4 digit master code to 1111 (refer to page 28), powering up with the blue (c) and yellow (6) wires shorted.
The GSM intercom does not respond to SMS messages, but all other functions appear to operate ok, e.g. DTO feature, adjusting speech volumes, releasing the door/gate 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 GSM will not recognise text messages that are set to this mode.
	Check that the SMS messaging input method setting on the smartphone is **not** set up as UNICODE and is set to either GSM alphabet or Automatic. This can ususally be done via the settings icon on the smartphone. If you are unsure of how to do this Videx recommend consulting with the user's manual that came with the smartphone or consulting directly with the manufacturer of the smartphone.
The call keeps dropping out.	Increase the call time **(SPT)** in programming (refer to pages 38 - 39).
	Check the signal strength and if necessary, move or change the antenna or try a different SIM card provider.
Speech echoes and feeds back.	Try adjusting the volume using the programmable settings during a call (refer to user commands on page 59).
	Check the microphone is fitted correctly in the intercom panel and that the mic hole is not blocked in any way.

Troubleshooting

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.
Unable to open the gate/door 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 on page 59) does not work then check to see if the **ED#** funtion has been enabled: 1. Send the following SMS command **1111ED#?** to the GSM intercom and wait for a reply confirming the status of this function. 2. **Note:** If the **1111EDZ** function (also see notes on page 45) is set to 01 (enabled) then when answering the call it will be necessary to first press 0 to accept the call before 3 can be used to operate the gate/door. Further notes on how to effectively use this function and on the setup of this function can be found on page 45.
	If the DTMF tones are not working reliably then try the following adjustments: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=8,2500,1500"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If the option above doesn't resolve the issue then try the following: 1. Send the following SMS command **1111AT1"AT#DTMFCFG=7,2300,1300"?** to the GSM intercom and wait for a reply. 2. After receiving the reply send the SMS command **1111RBT** then wait for the GSM intercom to reboot. 3. After the GSM intercom has rebooted test the door opening feature from the telephone during a call.
	If neither of the above solutions resolve the problem then please contact Videx technical on tel: **0191 224 3174** for further assistance. For overseas customers contact Videx customer support on tel: **(+39) 0734 631 699** for further assistance.

Further guidance can also be found in the **additional user information** section of this manual on pages 60 - 61 in the 'understanding the beeps' table.

General Information

FIRMWARE REVISION

DATE	FIRMWARE VERSION	REVISION
21/01/21	VR1.2.0	Launch of 4G variant of **VR4KGSM (Art.150)** GSM intercom module.
01/07/21	VR1.2.1	New command to control where the GSM module gets correct time/date updates from **NTZ**. Time taken from NTP server, UTC time feature **TZ+** and **TZ-** allowing for manual setup of time zones. Also daylight savings time command **DST**.
07/07/21	VR1.2.2	Fixed issue where **1111STRnnn""?** didn't free the location for use with **1111STR"nnnn"?** find. Added means to add additional VoLTE files via PC software. Added remote **AT** command feature via PC software. Changed free access override settings. To prevent a user resetting an output unlatch protection must also be enabled. If unlatch protection is not enabled it will be possible to unlatch the relay using dial to open, fobs, codes, SMS and during a call. When enabled it will only be possible to unlatch using the unlatch SMS and then it will only be possible to reactivate by SMS latch, all other means of activation will be ignored until the end of the free access period. i.e. works as previous firmware if unlatch protect set. Improved balance check feature and fixed issue with **O₂** balance check. Improved test routines for factory testing.
07/03/22	VR1.2.3	Updated and added: new events, additional "no service" recovery. Added SMS messaging service, user code limited SMS functions for users. Send global announcement **SGA** feature also added. Removed **NOD** command (No. of days before auto call). Other minor bug fixes.

FURTHER READING

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

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

Additional programming information using the **Art.VR4KDM** can be found in the following technical manual:

- **UIM-138 Display Module Manual - Technical Manual Edition 1.0** (or later version)

Additional programming information using the **Art.701T** timeclock can be found in the following technical manual:

- **66250340-701T-EN-V1-1** (or later version)

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

- **AN0046_RemotelyProgramming4GIntercomsViaPCSoftware**.

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

SMS Wizard PRO -

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

SMS Wizard -

- **AN0064_GSM_SMS_App_Dial_To_Open.**
- **AN0065_GSM_SMS_App_Program_A_Call_Button.**
- **AN0066_GSM_SMS_App_Setting_the_Audio_ Volumes_Using_the_Phone_Keypad.**

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

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

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

Notes

ENG DISPOSAL

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

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

ITA SMALTIMENTO

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

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

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

FRA ÉLIMINATION

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

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

SPA ELIMINACIÓN

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

El símbolo del contenedor tachado indicado sobre los aparatos o sobre los embalajes señala que el producto al final de su vida útil debe ser recogido separadamente de otros residuos municipales mezclados. Por tanto, el usuario deberà 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 possible presencia de substancias peligrosas dentro de ellos.

NLD VERWIJDERING

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

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

POR ELIMINAÇÃO

De acordo com o Decreto Legislativo n.º 49 de 14 de março de 2014 "Implementação da Diretiva 2012/19/UE relativa aos resíduos de equipamentos elétricos e eletrónicos (REEE)".

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

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