EasyLoader
AV-4000 GSM
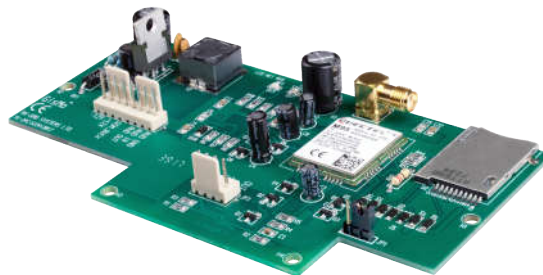# AV-4000 DVR
(for LED keypads)

Integrated Alarm Control panel & Communicator Series 4000

GisMo
GSM by AV-Gad

Appendix for GSM Alarm Panels
Version 1.06
Edition II

This product is subject to continuous enhancements and therefore specifications may be changed or altered without prior notice

Item: 4785E_GSM (A4BKE)
Rev01: 03-Nov-2018

CE ☐

AV-4000 GSM Appendix

1. Introduction

Use this appendix with the AV-4044GSM, 4008SM, 4009GSM, 4016GSM alarm panels, for installation manual refer to the Series 4000 LED express or full manual. This appendix covers also the AV-4044, 4008DVR. All models are supporting alarm sensors and sirens.

The series 4000 GSM and AV-4044DVR, AV-4008DVR GSM are compatible with Av-Gad LED keypads models AV-701 and AV-702.

The AV-4044, 4008 GSM are supplied with the Gismo board that is plugged into the serial RS-232 plug and connected to the integrated GSM modem.
The GSM panels are capable to send SMS via GSM and also to dial via GSM (dial but without audio) and PSTN. Report to central station via GSM is not available.
In GSM mode the remote DTMF feature is not active. The SMS texts are not programmable (to be later).
In some regions the PSTN network supports SMS messaging, consider and check if available with your PSTN provider.

Main features:

- Transmits SMS (short text message) via the GSM network
- Dials to regular numbers via GSM (after dial the unit disconnects, no sound or alarm tune is generated, show the number dialed from to receiver)
- Dials to PSTN numbers with alarm sound when the phone picked up
- Reports to central station via PSTN line (not via GSM)
- Do not supports remote DTMF commands
- Do not support voice module like SVM-40 if dial via GSM
- Compatible with 2nd, 3rd (2G and 3G) generation SIM card
- In Australia works and tested with vodafone SIM card
- Integrates high end four bands GSM modem (Gismo M95)
- Fully integrated with the alarm panel in ABS box
- Periodical test signal in few modes
- Send SMS with zone and events description (low battery, AC fail, etc)

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

Be aware of static electricity, don't touch the components directly

2. Hardware

The AV-4044, 4008, 4009, 4016 **GSM suffix** are based on the AV-4044, 4008, 4009 & 4016 LED panels and supplied with the additional hardware to provide full GSM alarm panel.

To identify the GSM; The Gismo PCB board (refer to fig. 1) with antenna plug located at the let-upper side in the main control panel case.

Pack includes GSM RF antenna. Before power up always connect the antenna to prevent damage to the GSM module. Verify the antenna cable is not coiled.

Process wiring with power down; don't insert the SIM card with power on. The Gismo has two indication LEDs, explained later.
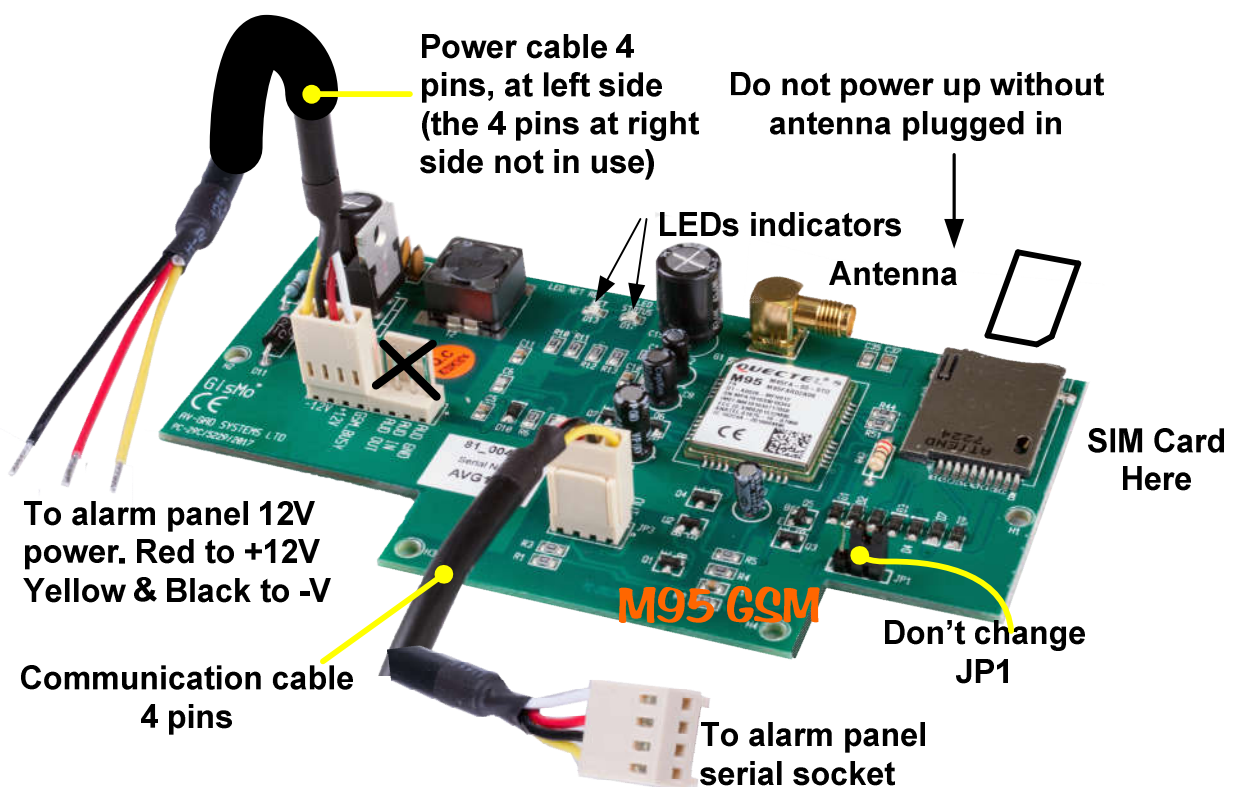

Figure 1: Gismo 95 GSM module description

Notice

Most simple is to program the panel from the keypad, simple and fast.

In case EasyLoad programming applied for alarm with GisMo interfaced proceed as following:

1. When programming with PC unplug the data cable from the alarm panel, notice that some GSM features are not included in the PC program.

2. As programming done plug the data cable from the GisMo to the alarm panel.
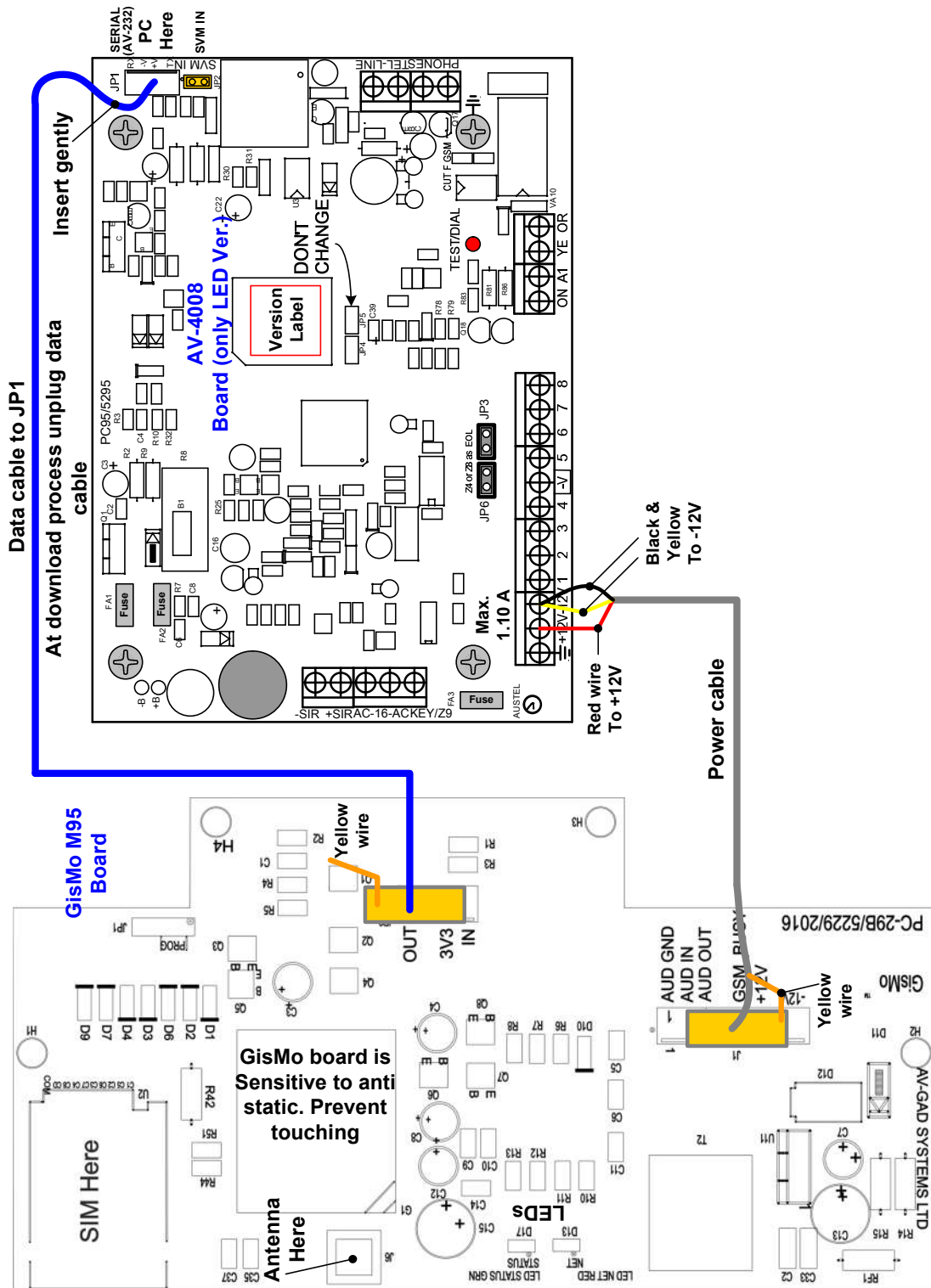
GisMo wired to Alarm panel diagram

Figure 2: Gismo 95 GSM module wired to alarm panel

3. Programming GSM and Dial features

To setup the panel wire the keypad model AV-701 or AV-702 (refer your panel main manual).

Insert the SIM card and connect the GSM antenna

Power up with AC (not with battery at first power up)

Hold down key 8, enter **1 9 9 4** (programming code), **P** is displayed indicating you are in PROGRAM mode. In programming mode enter 200, than the required function as detailed below.
Series 4000 panels are capable to send SMS via GSM or PSTN, also can dial via GSM or PSTN, the modes are programmable.

Programming the SMS mode dial modes:

Command	Description	Keypad display
Press 200 than 10	To display SMS sending way: Via PSTN or via GSM network	Line = PSTN Cell= GSM
Press 200 than 11	Panel send SMS via PSTN	LINE
Press 200 than 12	Panel send SMS via GSM	CELL
Press 200 than 50	To display the dial mode	LINE or CELL
Press 200 than 51	Set panel to dial via PSTN	LINE
Press 200 than 52	Set panel to dial via GSM (not ready yet)	CELL

Programming the SMS language for the texts:

Command	Description	Keypad display
Press 200 than 20	To display SMS language	HE or EN **
Press 200 than 21	Set SMS language to English (default)	EN
Press 200 than 22	Set SMS language to Hebrew	HE

HE= Hebrew, EN = English

** SMS texts are restored to defaults when changing SMS language

Three parameters affecting the SMS texts content for zones events

Address 138 - Using panel's fixed texts describing the event (Default 01 - yes)
Address 139 - Adding the zone number to SMS   (Default 01 - yes)
Address 140 - Adding the text description of the zone via PC (Default 00 - no)

If all parameters are set to 0, the panel resets the defaults.

Programming the Dialing and SMS phone numbers:

- To enable sending SMS program address 003, enter 01 to enable

- In GSM mode address 008 is not in use

- Supports six **Dial** telephone numbers, each 16 digits, address 013 to 018

- Supports four **SMS** telephone numbers, each 16 digits. Enter the phone numbers for SMS sending at address 009 to 012

- In phone numbers for GSM SMS/DIAL use digits 0-9 (none others)

4. AV-4044, 4008DVR GSM texts

Zone 1: Burglary at zone 1
Zone 2: Burglary at zone 2
Zone 3: Burglary at zone 3
Zone 4: Burglary at zone 4

Zone 5: Burglary at zone 5
Zone 6: Burglary at zone 6
Zone 7: Burglary at zone 7
Zone 8: Burglary at zone 8

Every event via SMS is time and date stamped. For customized texts EasyLoad software is required, texts set at zone description section.

System fail texts displayed via SMS:

AC fail
Low Battery
AC fail restored
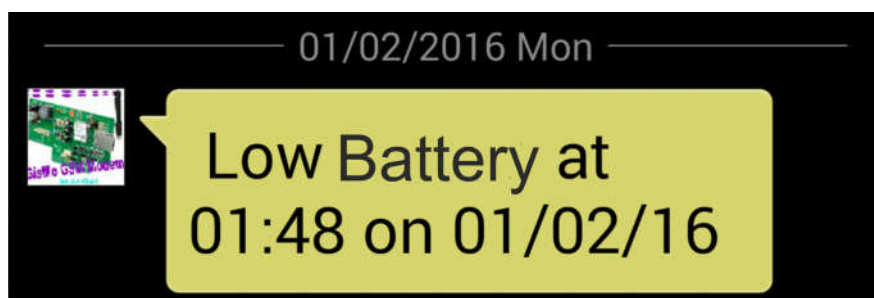Low Battery restored

(More events are included)

Figure 3: SMS sample

5. Commands 200 in programming mode

Location	Function
200 and 00	Display control panel type & software version
200 and 04	Erase (reset) the events history
200 and 05	Restore all codes to factory default
200 and 10 (SMS)	Displays current setting LInE or Cell (SMS Mode)
200 and 11 (SMS)	Sets to PSTN line (displays LInE) (PSTN SMS)
200 and 12 (SMS)	Sets to mode GSM (displays CELL) (GSM mode)
200 and 20	Display current SMS language. En for English
200 and 21	Set English as the SMS language
200 and 22	Set Hebrew as the SMS language
200 and 30	Activate ON output (until disabled)
200 and 31	Deactivate ON output
200 and 32	Activate A1 output (until disabled)
200 and 33	Deactivate A1 output
200 and 44	Set panel to four (4) zones Mode
200 and 48	Set panel to eight (8) zones Mode
200 and 50 (Dial)	Displays current settings LInE or CELL to dial on alarm
200 and 51	Set PSTN line for dialing (when answer siren sound is heard)
200 and 52	Set GSM line for dialing (when answer no siren sound)
200 and 69	Restore program to default
200 and 70	Not valid for LED keypad
200 and 71	Nor valid for LED keypad
200 and 72	Download zone description & logo only
200 and 77	Set panel to PC Communicate Mode
200 and 78	Arm panel from programming mode

200 + 10 displays current system setting; Line or Cell (Cell = GSM cellular)
200 + 11 sets PSTN LINE (displays Line by keypad display)
200 + 12 sets GSM (displays CELL by keypad display)

SMS via GSM Restrictions: Only English SMS even if for LINE Hebrew has been set. Via PSTN LINE can send English or other languages (Hebrew) SMS.

When set to use GSM dialing to Central Station is disabled.
For LINE (via PSTN) SMS, address 008 (Service Center number) must be programmed.

For GSM SMS address 008 is not relevant.

Save the SIM number at your phone:

For fast identify the SMS source create e new Contact in your mobile, apply your favorite name like My GisMo or similar.

6. GisMo LEDs indications

Green LED Status - Indicates the GSM processor is operating. Must light
Red LED Net - Indicated the GSM network status, see modes in the below table, wait while until unit registered to network.

Red LED status	Description	Note
Slow blinking every 2 seconds	GSM is registered and connected to the network	Ready for action
Fast blinking every 0.5 second	Wrong command received	Power off, wait than power on

Keypad 3 LEDs indications SMS via GSM

SMS by GSM in progress	SMS is sent the **Shunt** LED (Orange) blinks fast for 3 seconds
SMS by GSM succeed	**Armed, Shunt** and **Fire** LEDs light ON steady for 4 seconds status LED (Green) blinks fast for seconds
SMS by GSM fail	**Armed** and **Fire** LEDs light ON steady for 4 seconds

7. Operating

Connect the keypad
Connect the antenna. Check the GSM signal level (with your mobile)
Verify the SIM card and antenna are connected
Power up with AC power
Notice the Gismo module LEDs are on

Wait 2-3 minutes to allow the GSM registration process.

<u>SMS testing</u> hold down key 6 than hold down key 5 – Send SMS to all subscribers

<u>Dial testing</u> hold down key 6 than hold down key 7 – Dial to all subscribers

8. SIM card
The SIM card socket is located on the Gismo board, refer to figure 1.

SIM card parameters: Generation 2 or 3 (not micro type), SMS enabled, without voice message service, without charges limits (not must), caller ID is enabled and unlocked, Pin Code disabled. See sample picture below

Figure 4: SIM card that fits

In Australia GisMo works and tested with Vodafone SIM card.

9. AV-4044, AV-4008, AV-4009, 4008DVR GSM texts
The AV-4044DVR, 4008DVR models are dedicated to be used with CCTV system that includes DVR or NVR recording device, the DVR may fail form certain faults, the AV-4000 system supervised the recording device and reports ant fail by sending SMS.

Zone 1: Hard disk fault
Zone 2: DVR Ventilator / Temp fail
Zone 3: TCP/IP communication fail
Zone 4: Recording stop

Zone 5: PTZ control fail
Zone 6: High temp alert
Zone 7: DVR faulty 1
Zone 7: DVR faulty 2

10. News for version 1.05

Periodical signal tests is added, see address 005. The panel dials via PSTN (land line).

In AV-4044, 4008 GSM if phone numbers programmed system dials them via PSTN, when caller answer a siren sound is generated.

Periodic test at address 005:
00 = No test signal
01 = Not valid in GSM (test to central station GSM mode)
02 = Send SMS for test, works in GSM mode only
03 = Send test signal by SMS and to central station (to CS via PSTN)

11. Trouble shooting in GSM mode

Problem	Solution
The GSM is not sending SMS after programmed	- Check the SIM card you used with unit. Try to send SMS with the same SIM from your mobile phone. - Try to replace the antenna - Check the local GSM signal level
The GSM is used to work fine, after a while not responding and not sending SMS	- The SIM provider (like Orange, Vodafone) has poor radio coverage in the region. - Try other provider (with better GSM coverage) SIM card. - Change the antenna location - Other option is to use high gain GSM antenna. - Check that the SIM card has funds to support SMS sending - The GSM modem received thunder hit and requires software and hardware reset, or been damaged. Requires factory repair
I replaced the SIM in the GSM and notice unstable unit	New SIM in most cases must be activated by the SIM card provider and load with some money (for sending SMS and dial) in order to work properly. Call the SIM provider or check the SIM in your working mobile phone if can call and send SMS