MODULE: GSM Video – dialer
GSM Video V-0a

TECHNICAL SPECIFICATIONS

Number of telephone numbers with permission of video-call	up to 3
Time duration of one video-record	approx. 1,5 min.
Number of video-records stored in memory	10
Number of dialing telephone numbers at alarm	up to 9
Number of dialing cycles:	1 1
Power supply voltage (at dialing):	12V, 250mA
Control:	dropout +12V, input +12V, dropout "ground", input "ground"
Submitted service SMS-s:	AC TROUBLE, RESTORE AC TROUBLE, LOW BATT, RESTORE LOW BATT, Out=1, Out=0
Number of camera inputs	up to 2
Audio input	1

To be able to make a video-call it's necessary to have a 3G net at the place where the dialer is installed , at the place where you are at the moment and your mobile to have a video-call ability!

Antenna- in case of low signal quality the standard 4cm antenna can be replaced with a 3m.-cable equipped external antenna.

SIM- a standard SIM- card

SD- card (option) – if present all the video-records will be kept on it and can be downloaded from it to a PC. If the card is not present all the records are stored in module internal memory.

Test/Erase SIM- the button acts as a SIM-ERASE button at first one minute after power-up the module After that pressing the button will send a SMS 'Test OK!' to the first-place recorded tel. number in the SIM-card.

64 32 16 8- jumpers to choose the TEST SMS message period (see ' Programming the TEST-SMS- message period').

AC/BATT SMS ENABLE- jumper to enable AC/DC control. When set, the power level will be constantly monitored and an appropriate SMS will be send to the first-place recorded tel. number in the SIM- card at need.

Cam2, Cam1- video-input for Camera 2 and 1 respectively.

Audio IN- electret microphone input (+ in the centre).

Z2- Cam2 start video-record input.

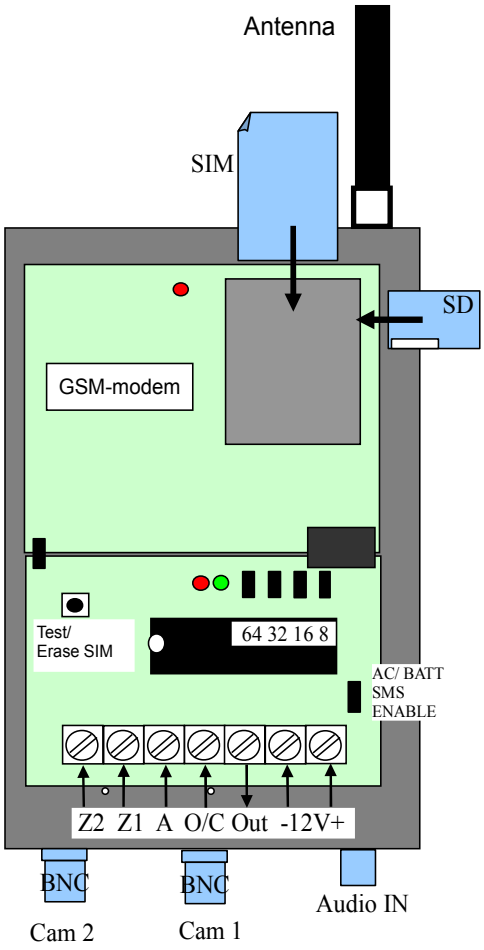
Z1- Cam1 start video-record input.

A- Alarm input for VOICE-call alert.

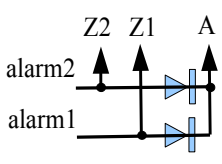
O/C- open/close alarm system state input.

Out- an output to control external device +12V max.100mA

-12V+ main power supply to module.



If you have just one camera connected and you want a video-record to be made simultaneously with the alarm event and voice-call alert, then you may connect both the Z1 (or Z2) input and A-input to one alarm output of the alarm system.
In case you have two cameras and two alarm-outputs off the alarm system you have to use a diode-logic to be able to get a record from appropriate camera and alarm-input A. An example below shows how to do this if the alarm events trigger a +12Vsignal:



CONNECTION

We recommend connecting the dialer with all voltage points of the alarm system switched off!

The dialer is activated at changing the control voltage at the respective terminal.
The dialer control terminals are set to "ground" by internal resistors.
In this case, the “input +12V”, and “dropout +12V” control shall be connected directly to the respective input.
If any of the dialer terminals is to be controlled by “ground input” or “ground dropout”, a resistor of 4,7kΩ - 5,6kΩ is connected externally between +12V and the respective terminal, as shown on the scheme by a dotted line.
At power up , the dialer recognizes the terminal control levels as follows:
- terminals “Z1” and “Z2” not activated;
- terminal “alarm” not activated;
- OPEN/ CLOSE terminal in OPEN mode;

That is why, when connecting 'under voltage', first connect the control circuits to the alarm station, and then the power supply of 12V.

Outputs description:

Indication	Description	Activation	Reaction	Connection
Z1*Z2*	A video-record starts after an trigger impulse at Z1 or Z2 occurs	a trigger impulse	starts the video record from Camera1 or Camera2	Output of the alarm central station.
A*	Alarm input	Input status change	One cycle of Voice call alert of phone numbers stored at position 1 to 9 in the SIM-card.	Alarm output at the central station.
O/C*	Open/ Close site = ' Off/ On' for a site under security.	Input status change	Sends SMS 'Open!' or 'Close!' to the first contact on the SIM-card.	'Open/ Close' output of the alarm system.
Out	Output +12V, 100мA for external consumers control.	A Voice call from a contact entered on position 1 to 3 on the dialler SIM-card.	The output status changes. Following the change, the dialler sends back an SMS 'Out=1' or 'Out=0', when the +12V voltage is charged or discharged at the output. Initially Out=0.	When connecting inductive load (relay), add a reverse diode.
-	Ground' of supply voltage +12V and 'ground' of control inputs			To 'ground' of the alarm central station.
+	+12V/ 250 mA continuous supply voltage			To a continuous '+12V' of the alarm central station
TEST / ERASE SIM	Test/Erase SIM-card button	Press the button for about 1sec. and release.	Sends SMS 'TEST OK' to the first contact on the SIM-card. Reads the status of the test jumpers for the automatic test time.	Within 1 min. following the power up the module and the establishing of a connection with the GSM-modem, the dialler red and the green LED-s flash simultaneously. While in this mode, the button functions as 'ERASE SIM'. Upon expiry of 1 min. only the green LED continues flashing, and the button then functions as 'TEST'.
8h 16h 32h 64h	Test period setting jumpers.	A jumper disconnection adds the written hours to the test time-period.	Sends SMS 'TEST OK' to the first contact on the SIM-card. Reads the status of the test jumpers for the automatic test time.	When all J are connected, no test SMS is sent. When all J are disconnected, a test SMS shall be sent at 8+16+32+64=120 hours.
J J J J				

* If this output does not provide '+12V' status, an external resistor is added to '+12V' (see chart)

PROGRAMMING

1. Insert the SIM-card into the GSM device, switch it on and disable the PIN-code.
2. Erase the first 9 entries on the SIM-card.
3. Enter your GSM contacts in the order in which you want them to be dialled (all service SMS-s shall be sent to the first entered number, therefore, it is advisable for it to be a mobile phone number). Take the SIM-card out of the device.
4. Choose the type of SMS for the Z1 and enter the corresponding digit in the tenth phone number on the SIM-card.
5. Set the time interval for the test SMS-s and set the dialer jumpers.
6. Set the ALARM and the OPEN/CLOSE control levels of the dialer, and if necessary fix external resistors.
7. Connect the dialer controls.
8. Insert the SIM-card into the module-holder.
9. Connect the dialer 12V power supply.
10. Wait until only the green LED flashes.
11. You can send a test SMS, by pressing the TEST button on the dialer for over 1 sec.
12. You can dial through the entered numbers by activating the alarm input.
13. If so far everything is all right, the dialer shall stay in the "CONNECTED" mode and the green LED shall flash slowly.

Appendix 1

PROGRAMMING OF TELEPHONE NUMBERS AND THE SMS TYPE FROM Z1

The dialer SIM-card entries 1 - 9 are intended for sending a warning if an alarm event occurs.
The first valid entry on the SIM-card has the highest priority, since it is here where all the service SMS-s are received when sent by the dialer.
Usually with new SIM-cards this is where the service numbers are recorded, such as of the Police, the Fire Department, etc. It is therefore important to safely erase the entries 1 -9.
Insert the SIM-card into an ordinary GSM device (with a keypad and display).
Disable the "PIN code" function! (usually it is found in the MENU -> SETTINGS -> SECURITY -> PIN-code = off).
Erase the first 9 entries on the SIM-card. **Attention!** These entries may not be the first 9 in the sequence in which the device provides them (in alphabetical order)! To see the contact entered under a particular number, select 'READ', and you will see something like:

…. (NAME) …
088…… (number)
ENTRY NUMBER 001 -> this is the serial number on the SIM-card.

For almost full old cards, this may however take too much time, therefore you can use the 'ERASE SIM' function on our module.

At activating Z1, an SMS is sent to the phone number entered on first position in the SIM-card. What type of SMS is to be sent, depends on the digit programmed for position 10 in the SIM-card 1,2,3, or 4, in the place of the telephone number, as follows:

1 TAMPER / RESTORE TAMPER
2 PANIC ALARM / RESTORE PANIC ALARM
3 FIRE ALARM / RESTORE FIRE ALARM
4 SYSTEM TROUBLE / RESTORE SYSTEM TROUBLE

If nothing has been programmed for position 10, TAMPER SMS-s shall be sent. The ERASE SIM function does not erase entry 10!

The dialer checks the supply voltage and automatically sends an SMS.

AC TROUBLE, RESTORE AC TROUBLE, LOW BATT, RESTORE LOW BATT to the first phone number.

Appendix 2

PROGRAMMING THE TEST SMS-s TIME INTERVAL

The dialer can be set to send a test SMS "**Test OK!**" in intervals of 8 hours each, to control the connection.
The programming of this interval is carried out by jumpers **64h 32h 16h 8h** as follows:
Connected jumper is read as '0' zero; a disconnected one – '1' one.

1. For those familiar with hexadecimals - the number obtained through the jumpers is the multiplier which, when multiplied by 8 hours, yields the test SMS interval.
   Example: (connected-disconnected-disconnected-connected) => $(0110)_2$ * 8 hours = 48 hours
2. for the rest: connected jumpers are not counted, while the disconnected ones add as much time as it is indicated next to them.
   Example: (connected-disconnected-connected-disconnected) => not counted + 32h + not counted + 8h = 40 hours.

With all jumpers connected, no test SMS-s are sent.
With all jumpers disconnected, the time interval shall be 64+32+16+8 = 120 hours (five days).
ATTENTION! when switched on for the first time, the 'TEST' button of the dialer has the 'ERASE SIM' function; see Table.

Following that, the dialer reads the jumpers and sets the time for the next SMS. You can change the jumpers interval settings at any time without switching off the dialer, but after that, when the dialer is already in the 'CONNECTED' mode, you have to press the TEST-button in order to send a test SMS.
first - in order to make sure that everything is all right and that the telephone number for the messages has been correctly stored;
second - in order to read the new jumpers interval settings for a test SMS.

What is to be taken into consideration when choosing a particular test SMS time interval?
From economical p.o.v: each SMS costs about 15 stotinki, with VAT included, therefore if you are using a 'Prima' card or a similar one of 15 BGN, you shall have enough money to send about 60 SMS-s, and available funds yet left for the call from the ALARM, which is in fact the most important thing. If you program sending test SMS-s every 120 hours, you shall spend these 60 SMS-s for 300 days, i.e. you can do with 15 BGN for almost a whole year. We remind that for economical reasons again, a SMS is sent only to the first telephone number stored on the SIM-card.
Greater security: in this case, 8 or 16 hours would be a reasonable time interval, and it would be advisable for you to choose a contract regulated card.

"ERASE SIM" FUNCTION

The PIN function of the SIM-card (see *Appendix)*|, has to be disabled!

After establishing a connection, insert the SIM-card into the card-holder, and supply 12V of voltage. Wait until the dialer red and green LED-s start flashing simultaneously. This mode shall continue for about 1 minute. If during this time you press the **"TEST/ ERASE SIM"** button, you shall initiate a procedure where all entries 1-9 on the SIM-card shall be erased, so that you can enter there your entries. During this procedure (about 20 sec.) none of the dialer LED indicators are on. After the procedure has been finalized, the dialer stays in the "CONNECTED" mode.
Disconnect the power supply, take the SIM-card out and insert it into a GSM device. See *Appendix 1.*

TEST

When the dialer is in the "CONNECTED" mode (see above), you can at any time check the operation of the dialer – GSM-contact system, by pressing for over 1 sec. the TEST button located on the dialer board. Thus you will send a "Test OK!" SMS. to the first number stored on the SIM-card.

USER MANUAL

First three records in SIM- card (group 1-3) are permitted to make a video-call to the module or a voice-call in order to switch over the output 'Out'.
The rest from 4 to 9 are just for alarm event alert.
VIDEO-CALL
After the dialer has been installed, programmed, powered and in 'READY' state (only the green LED blinks slowly), from a cell-phone recorded at position 1 to 3 in SIM- card, make a video-call to the module. You will see a real-time image from the last chosen camera (1 or 2). If you have a microphone connected to the module you will have the ability to hear all the sounds in the area. Using your cell-phone buttons you may dial #1 or #2 in order to switch to camera 1 or 2 respectively after that you probably have to re-dial the module in order the command to take place.
IMPORTANT: video-record starts after an trigger impulse at Z1 or Z2 occurs (Z1 has priority if both). We want to draw your attention to the fact that if you make a video-call to the module when a video-record has been started, the video-record stops and the video-signal is passed to you for watching, that is you have no record at this time. If you want to have a record of happening, you have to press #0 to start the record. The dialer will hang up and start recording and after a while you can video-dial again and watch the record you have made.
Pressing *1 to *9 (1 is the recent) during an active video-call you will be able to watch the records stored in module memory. If you press a new command it will take place after the current video-play finishes.
VOICE-CALL
If you want to switch over the dialer output Out dial the module from a cell-phone group 1-3. The output will be switched over and a SMS will be sent to the caller showing the new state of the output.

Guarantee period: 24 month

Enjoy!
ETA-SYS