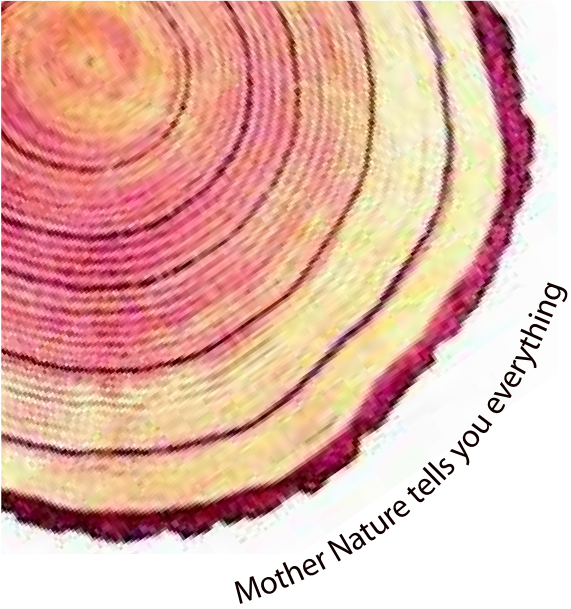

OPERATING MANUAL

GSM Alert System
Model No.: 7xx....

g-tek™ Record it... Control it... Perfect it.

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- Networked Data Loggers
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3, mahavir industrial estate,
nr. jalaram mandir, karelibaug,
vadodara - 390 018.
tel.: +91-98245 24140
e-mail: info@gtek-india.com
url: www.gtek-india.com

CONTENTS

1 LIST OF FIGURES

2 LIST OF TABLES

3 INTRODUCTION

This manual is written to help the user to familiarize with the installation and operation of the GSM Dialer. The GSM Dialer SMS & voice auto-dialing system which can be used to communicate Alert activity from an existing alarm system or from sensors connected to its inputs as a standalone communicator. The device supports remote Arming, Disarming, and Partial Disarming changes by admin.
Alerts are processed according to the priority set by user and download Alert Log details using PC application.

3.1 MANUAL LAYOUT

This manual is divided into a number of sections for quick and easy reference.

Table 1 Manual Layout

Section 1 Introduction	This gives outline of the manual, brief description about the GSM Dialer, Optional features available and how to unpack it.
Section 2 Installation	This section gives the details of the LED display And Electrical Installation.
Section 3 Operation	This section gives the details of the GSM alert report and arming-Disarming feature.
Section 4 GSM Dialer Configuration	This section gives the details of various parameter that user can set for proper monitoring requirement.
Section 5 Calibration of GSM signal strength	This section describes the calibration procedure for the GSM Dialer.
Section 6 Troubleshooting Guide	This section describes about the most frequently asked questions and their solutions about GSM Dialer.
Section 7 Accessories	This section describes the standard accessories for the GSM Dialer.
Section 8 Specification	It describes the detailed specification of the GSM Dialer.
Section 9 Ordering Code	It describe the details of order code and comparing it with the code on the GSM Dialer, user can find out the installed options.

***Features and capabilities may vary depending upon the product purchased.**

3.2 GSM DIALER DESCRIPTION

GSM Dialer support up to 20 Alert messages and 4 different voice call, user can store up to 20 contact numbers and set alert priority using PC Application it process upcoming alert base on it set priority and if high priority alert come during low priority process it terminates low priority process and start services high priority alert, device support remote arming, disarming and partial disarming request by admin only. Alert log details user can download using PC application.

3.3 OPTIONAL FEATURES

Following optional features are available for this GSM Dialer.

- Support up to 20 contact number
- 15 alert messages and 4 different voice call
- Alert process base on set priority
- Event log details and Alert log detail using PC Application.

- Remote arming , Diagraming and Partial Disarming
- External Battery Backup
- Rollover memory

It is possible that the GSM Dialer you received may or may not be fitted with the optional features. Please refer to the product code to know about installed options in your GSM Dialer.

***Features and capabilities may vary depending upon the product purchased.**

3.4 UNPACKING AND INSPECTION OF GSM DIALER

G-Tek GSM dialer are dispatched in a recyclable, environment friendly package specially designed to give adequate protection during transit. If the outer box show sign of damage, it should be opened immediately and the GSM Dialer be examined. If there is evidence of damage, the instrument should not be operated and the local representative contacted for instructions. Ensure that all accessories and documentation is removed from the box. If the GSM Dialer is for immediate use, you can start installing it now as per following instructions. **Please preserve the original packing along with all internal packing for future transport requirements.**

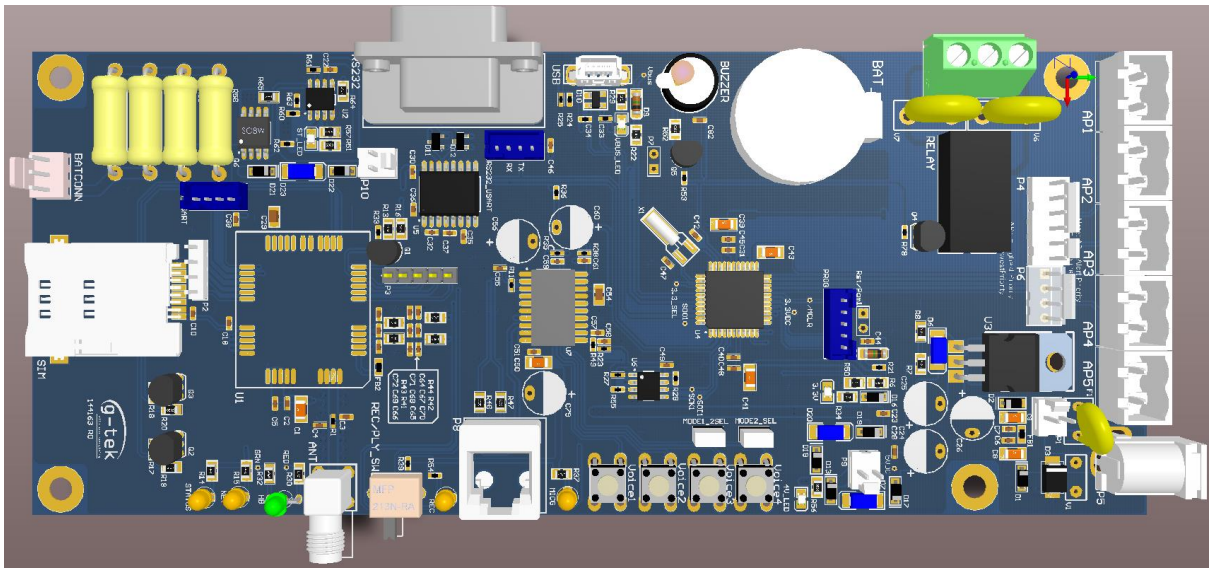
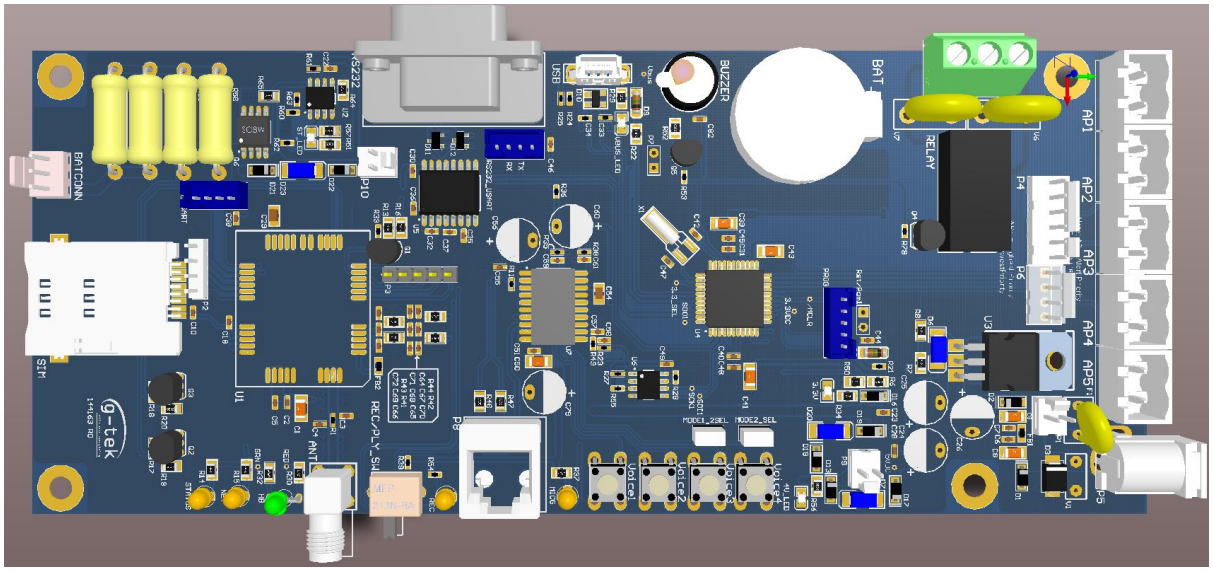


Figure 1 Front View of GSM dialer

4 SYSTEM ARCHITECTURE



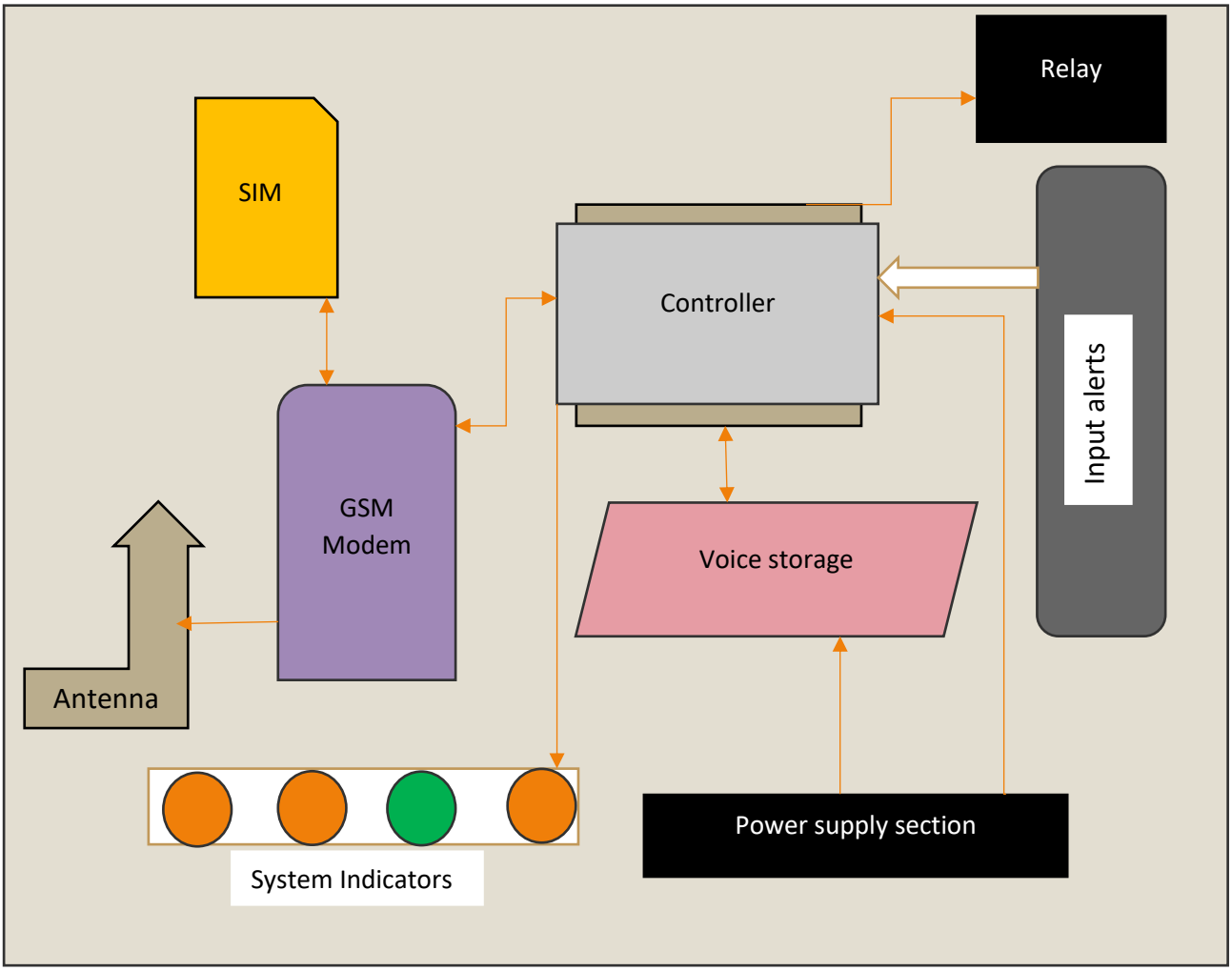


Figure 2 System Architecture

5 INSTALLATION

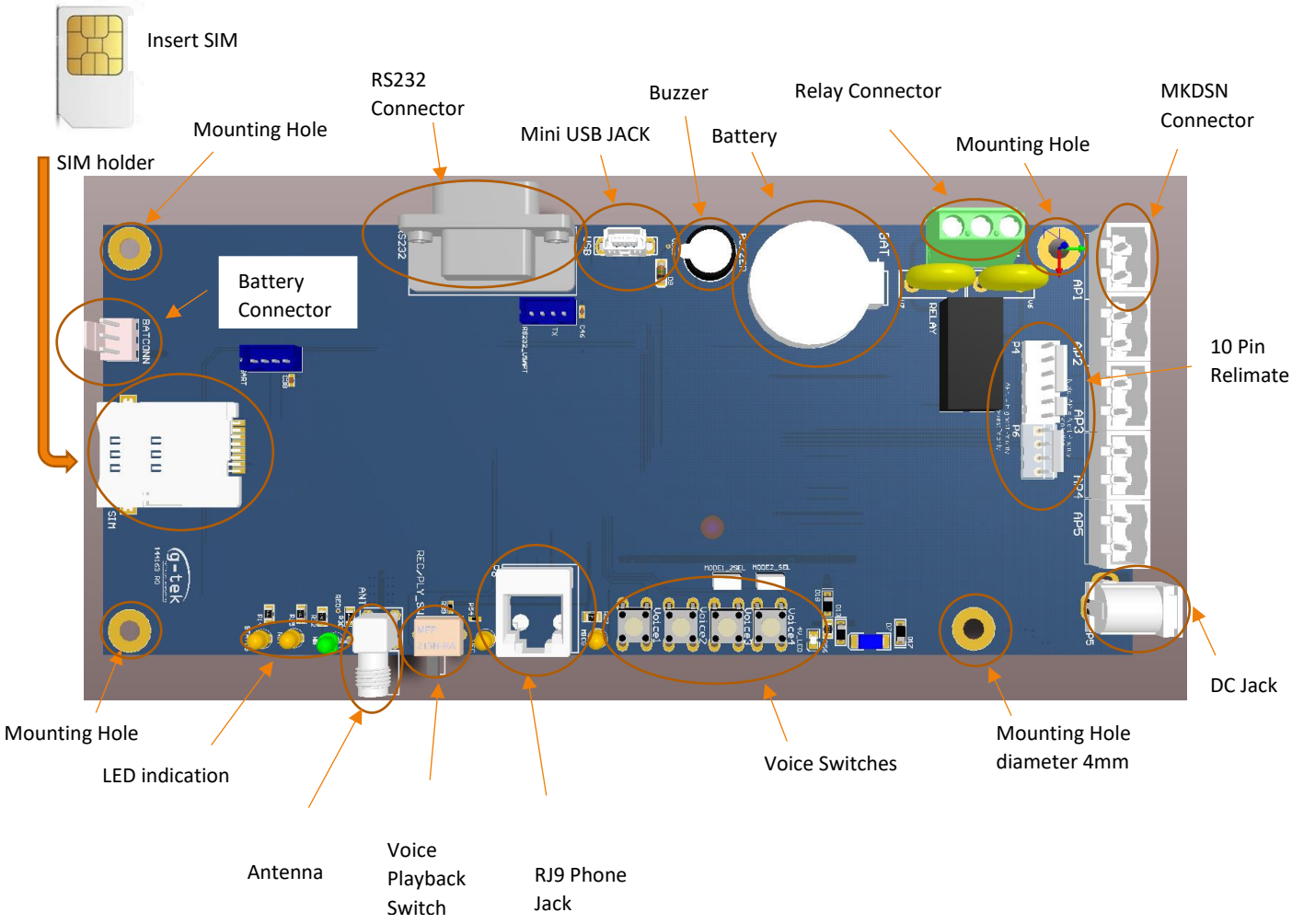


Figure 3 Installation

PCB size 80X192mm.

Table 2 Component detailing for installation

Components	**Function and recommendation**
LED Indication	Indicate communications status with two-way pager network
Battery	Sleep mode backup for RTC, Recommended battery CR2032.
DB9 Telephone Jack	Voice recording and listing
Antenna Jack	Antenna connection for wireless data transceiver
Mounting hole	Mounting diameter 4mm Recommended spacer and Washer 8mm.
12pin Male relimate	For Alert inputs
USB	USB connection to PC
SIM holder	Insert SIM card
Voice switches	Recording

5.1 ELECTRICAL INSTALLATION

5.1.1 General Information

Warnings

To comply with Underwriter Laboratories (UL) and Canadian Standards Association (CSA) certification, route signal leads and power cables in earthed (grounded), flexible metal conduit.

- Instruments not fitted with the optional internal on/off switch and fuse must have a disconnecting device such as a switch or circuit breaker conforming to local safety standards fitted to the final installation. It must be fitted in close proximity to the instrument within easy reach of the operator and must be marked clearly as the disconnection device for the instrument.
- Remove all power from supply, relay and any powered control circuits and high common mode voltages before accessing or making any connections.
- Use cable appropriate for the load currents. The terminals accept cables up to 14AWG (2.5mm1).
- The instrument and all inputs and outputs conform to Mains Power Input Insulation Category II.
- All connections to secondary circuits must have basic insulation.
- After installation, there must be no access to live parts e.g. terminals.
- Terminals for external circuits are for use only with equipment with no accessible live parts.
- If the instrument is used in a manner not specified by the Company, the protection provided by the equipment may be impaired.
- All equipment connected to the instrument's terminals must comply with local safety standards (IEC 60950, EN601010-1).

NOTE:
In order to ensure maximum GSM Dialer performance, proper wiring installation practices must be followed. Failure to do so can result in a range of problems, from loss of configuration to component failure, caused by transmitted or radiated electrical noise. Proper consideration must be given to local noise sources and appropriate suppression steps taken to minimize any potential problems. Among the most common sources of noise are: Relays, SCRs, valve solenoids, electric motors, power line disturbance, wire-to-wire coupling, electrostatic discharge (ESD) and radio-frequency interference (RFI).

To achieve the best results, the following notes should be considered:

1. Signal input wiring should be twisted pairs/triplets etc. The conductors should be stranded rather than solid in construction. All signal wiring should use ground-shielded wires, or be routed through grounded conduit to minimize the effects of RFI and ESD.

2. Special care should be taken when wiring to relay or solenoid coils, as large transients are produced when coils (or any other inductive loads like motors or arc welding equipment's etc.) are switched. This problem can be eliminated by the use of suitable suppression devices across the coil. Coil transients can also be transmitted through the air, so the recorder itself should be mounted as far as possible from power control devices and/or wiring.

3. When line power is poorly regulated and / or subject to voltage surges or transients, consideration should be given to the use of a line conditioning/transient suppressing line power regulator. Process control motors, valves, relays and heaters should not be connected to the same power lines that are used for instrumentation.

4. All local electrical codes of practice must be followed when installing any instrumentation.

5.1.2 Mains Supply Connection

The connection for Mains supply is shown in figure-9. As per figure one end of the adaptor connected to mains connector else other option for power supply through 2pin relimate female. Ensure that the end of adaptor/ connector is fully inserted into the mains connector and no loose/poor connection.

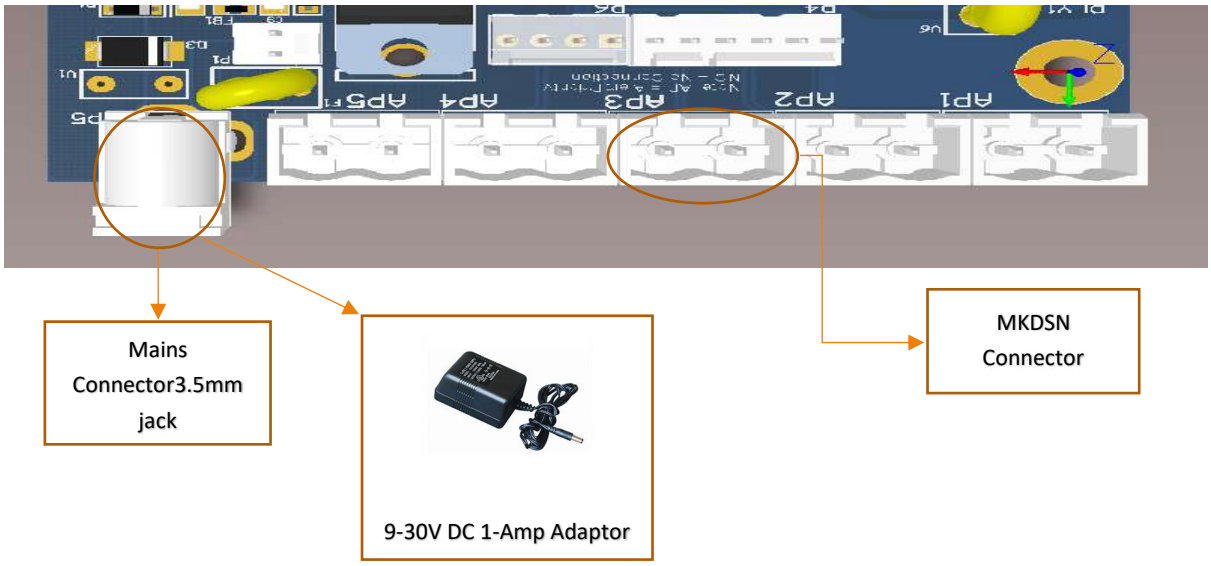


Figure 4 Mains supply connection

5.1.3 Alert Inputs

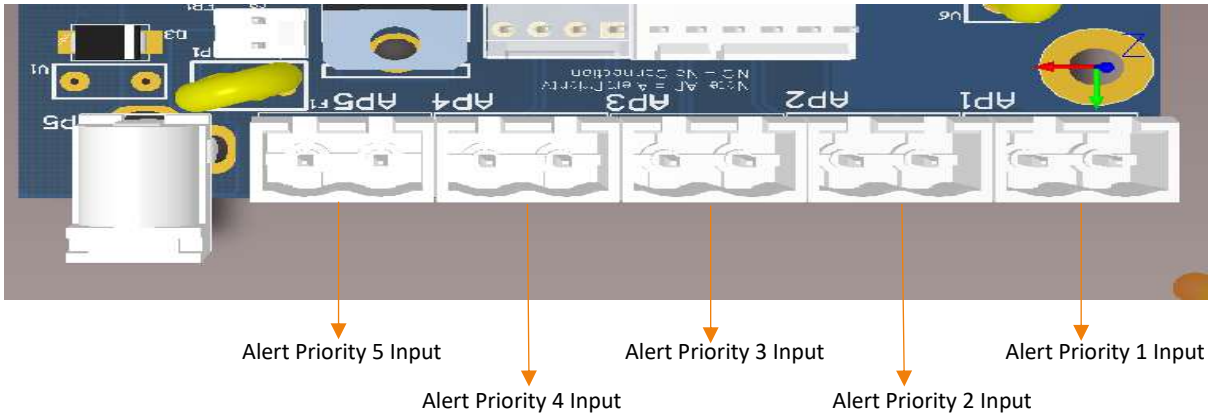


Figure 5 Alert Inputs

Total 5 alert inputs are available. For connection, Pitch of male relimate is 2.54 mm and 10pin Stranded wire recommended for female relimate. Remaining two pins are NC. Alert priority 5 input is the highest priority input and alert priority input 1 is the lowest priority input.

What type of alert inputs?

Our GSM dialer is an exciting advanced telecommunications reporting system. Activated by almost any type of sensor or alarm voltage trigger, GSM dialer will instantly deliver your pre-recorded voice message or alert to any phone or cell phone in any language, locally or to any number in the world. Interfaces with any alarm panel or can be used in a Standalone operation.

The GSM Dialer that dials for Emergency Help when you are away used to monitor burglar alarm, fire alarm, motion detection, fuel levels, temperature changes, humidity levels, pressure switches, Vibration, low or high voltage, glass breakage, control systems using any **potential free contact.**

5.1.4 Rechargeable Battery Backup Connection

GSM dialer is equipped with rechargeable NiMH battery backup that can automatic supply the power to the GSM dialer when AC power goes off. GSM dialer automatically detects the voltage of battery. Once voltage lowers below some point it will charge automatically. If you're not going to use GSM dialer for long time please remember to disconnect the battery backup.

5.1.5 USB and Relay connection

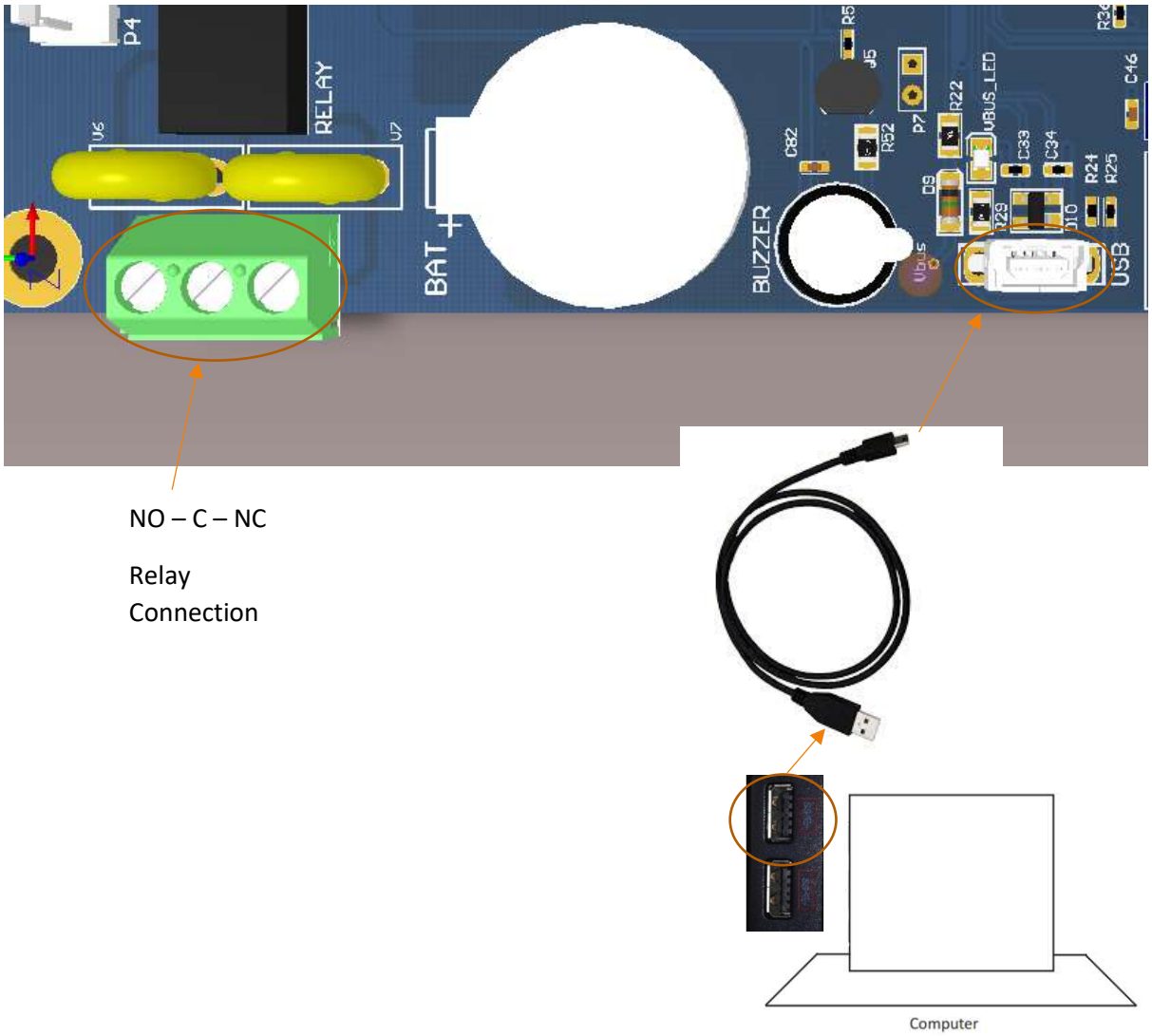


Figure 6 USB Cable and Relay Connection

Connect one end of Mini USB cable to the USB port of the GSM dialer as shown in figure-6. And other end to the computer for communicate using USB.

12-core wire in stranded form is the minimum requirement for relay connector.

6 OPERATION

GSM Dialer is an automated mobile equipment. It is a similar to our mobile devices.

GSM Dialer is a unique Facility to our customer that provides real time alert of the device activity .This Device maintains the record of Phone numbers and also differentiates the admin and operator controls.

At power up GSM internally take 12-15 sec for Synchronize GSM, get GSM SIM Status, and get GSM IMEI Number Network Registration and phone number validation. If the SIM Card is not registered the **Network LED** will be blinking at 1 sec. This signals a registration failure or a network failure. Also the **Status LED** turns RED from GREEN in case of any ERROR/FAILURE in the GSM else it turns GREEN means system perfectly working.

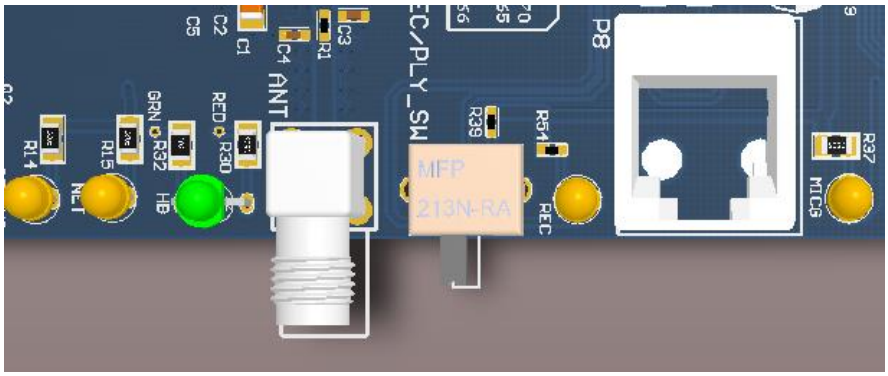


Figure 7 GSM Network and status indication

GSM Dialer observes the activity of connected Device and based on the activity if a special event occurred then it will notify all the stored numbers with admin and other operators with a specifying the event alert.

6.1 ALERT MESSAGE AND CALL BASED ON PRIORITY

GSM Dialer notify alert with Text message then after notify by voice call. Alert message string and alert priority set by user using PC application. Message and voice call sending restriction is possible for particular contact number, also one can change the alert message string using PC Application for more detail refer GSM view log manual. For any change in voice call playback refer voice call playback selection section.

Network failure or out of coverage or in any other failure condition, GSM try three time to connect that number. Still alert was not sent in that case it report as failure in log report that report of message and call success / failure download in pc application.

Important thing in GSM calling that user miss alert call in any case GSM dialer call 4 times to same number still not receive than it report failure once it received it consider as successful alert indication.

GSM dialer specially designed in such way that alert will service based on set priority. In case, during low priority services if high priority alert will come it will terminate the low priority and start sending alert messages and call for high priority alert.

During high priority services if any low priority will come it accepts and further process after completion of high priority alert. While GSM processing and same alert will come continuously it accept only one at time.

6.2 PROCESS ARMING-DISARMING AND PARTIAL DISARMING:

GSM Dialer support arming, Disarming, and partial disarming using special command send by admin. That command is sent in text message whose command format is shown in figure 9 that message GSM accept if command sent by only admin.

If system under disarming mode it stop accepting any upcoming alert until it get arm command. If GSM accept arming command it start accepting upcoming alerts and also starts servicing if pending any alert(s).

Partial disarming is one of the best remotely automated disarming feature. Admin send partial disarm command with defined time duration in minutes, system get disarm according to time request from admin then automatic arm. If any pending alerts remains before acceptation of partial disarm command it automatic starts services pending work once it come back in arm mode.

The important thing is it accept arming-disarming and partial disarming request only if request sent from selected three admin number and after acceptation of request it give response back through message string with specifying requested number.

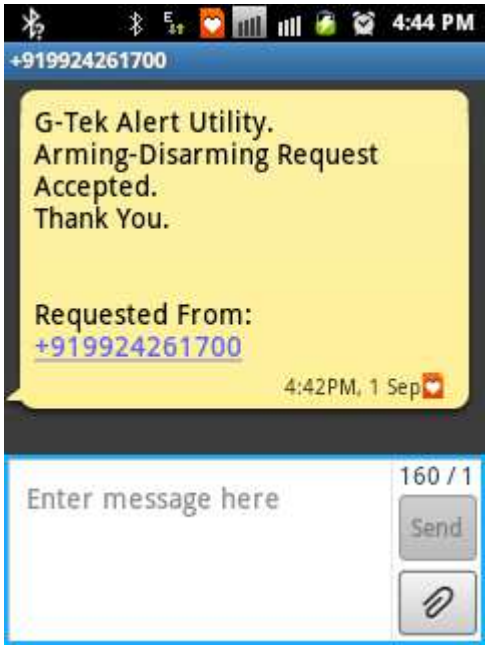


Figure 8 Acknowledgement for Arming-Disarming

Definitions and Description of Commands used in GSM Dialer

Sr. No	Command for…	Code Start Character	Code Number	Command index start Char	Index No	Code End Character
1	Arming	#	123	*	01*00	#
2	Disarming	#	123	*	02*00	#
3	Partial Disarming	#	123	*	03*MM	#

Set Minutes for Partial Disarm

Figure 9 Definitions and Description of Commands used in GSM Dialer

Error message during false command sent:

Following are the Errors generated regarding protocol malfunction:

1.) ERROR 01: Invalid Command Code
2.) ERROR 02: Invalid Phone Number
3.) ERROR 03: Invalid Syntax
4.) ERROR 04: Invalid Index No
5.) ERROR 05: Invalid Disarming Time Request

7 TYPICAL APPLICATION

- Security Alarm Systems
- Supervision / Monitoring Systems
- Vending Machine Security
- Pumping Stations, Tanks, Oil and Water Levels
- Buildings and Real Estate
- Weather Stations
- River Monitoring & Flood Control
- Fridges / Freezers
- Fish Tanks & Tropical Tanks
- Farming Machinery / Monitoring
- Car Alarm Systems
- Mains Failure
- Electric Fence Energizers
- Portable 12VDC Systems
- Floodlights
- Motor Overload

8 CONFIGURATION

To Prepare GSM Dialer to serve you better, you require to insert a preconfigured SIM Card into GSM Dialer .

8.1 PRE-CONFIGURE THE GSM SIM CARD

For Initial Setting you required to insert a SIM Card in any mobile equipment. In Mobile Equipment, Search for the phonebook and then delete all existing phonebook entry from the SIM Card memory. Here we require to clear all the existing data available in SIM Card with stored phonebook entries and messages.
For admin number and other configuration is PC Application base refer GSM view log manual.

WARNING: DO NOT Insert or remove the SIM card while the GSM Dialer is powered!!

8.2 RECORDING AND VOICE PLAYBACK

There are three different voice playback/recording modes available in GSM Voice Record/Playback. Following are the playback/recording modes possible in GSM:

a) 1(Single)- Playback/record mode: voice duration 40~80 Sec
b) 2(double)- Playback/record mode : Voice duration 20~40Sec for each playback
c) 4(Quad)- playback/record mode: voice duration 10~20Sec for each playback

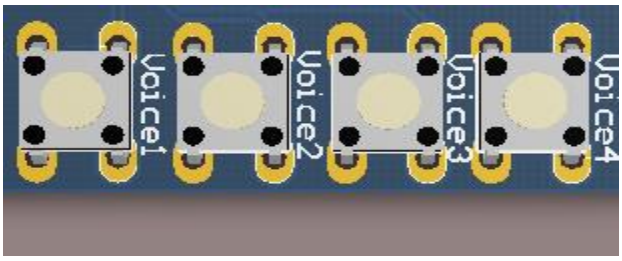
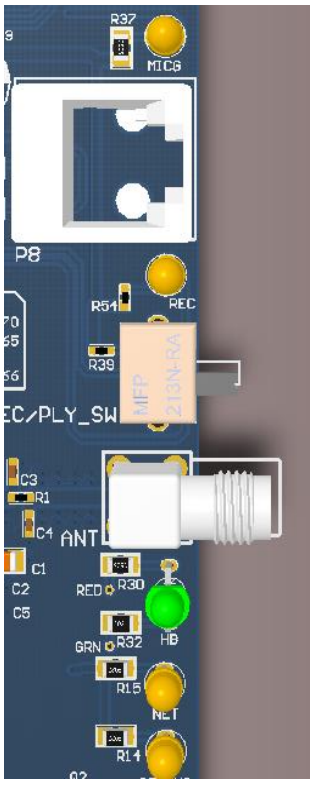


Figure 7 Recording and playback



***Number of voice record vary depending up on the product purchased**

Stander RJ-9 connecter available to connect telephone handset for record purpose and then listening same recording too. Make sure that no other unwanted noise present during recoding.

In order to record voice proceed with following steps:

- Keep Slide switch on recording mode (indicated by a glowing LED alongside the switch).
- To record 1st Voice Press **Voice1 switch**. GSM will playback beep tone and message recording start (Indicated by MICG LED alongside Phone Jack).
- The message recording will continue until the message pin released or the voice IC will play “beep” tone to indicate the message record finished or if user want to stop manually than press again same key.
- Similarly in 2 message mode press Voice1 key for 1st voice alert record and then press Voice2 switch for 2nd voice alert.
- Similarly for 4 message mode press one by one 1Voice to 4voice keys and record 4 different voice alert.
- After recording is over, slide the switch on playback mode and press voice key to listen to the recordings.
- If the message already exist and user record’s again, the old message will be replaced.

8.3 COMMUNICATION TYPE

Our GSM Dialer uses two protocol to communicate with the MODBUS.

8.3.1 USB

In order to connect GSM dialer as USB communication mode bellow mentioned procedure.

In order to operate the GSM Dialer in this mode connect UBS cable mini in the USB slot of the GSM dialer as shown in Installation section and connect the other end of the cable to the computer.

USB has the following key features:

Single connector type: USB replaces all the different legacy connectors with one well-defined, standardized USB connector for all USB peripheral devices, eliminating the need for different cables and connectors and thus simplifying the design of the USB devices. So all USB devices can be connected directly to a standard USB port on a computer.

Hot-swappable: USB devices can be safely plugged and unplugged as needed while the computer is running. So there is no need to reboot.

Plug and Play: Operating system software automatically identifies, configures, and loads the appropriate device driver when a user connects a USB device.

Expandability: Up to 127 different peripheral devices may theoretically be connected to a single bus at one time.

Power supplied from the bus: USB distributes the power to all connected devices eliminating the need for external power source for low-power devices. High-power devices can still require their own local power supply. USB also supports power saving suspend/resume modes.

USB device communication is based on pipes (logical channels). A pipe is a connection from the host controller to a logical entity, found on a device, and named an endpoint. Because pipes correspond 1-to-1 to endpoints, the terms are sometimes used interchangeably. A USB device could have up to 32 endpoints (16 IN, 16 OUT), though it's rare to have so many. An endpoint is defined and numbered by the device during initialization (the period after physical connection called "enumeration") and so is relatively permanent, whereas a pipe may be opened and closed.

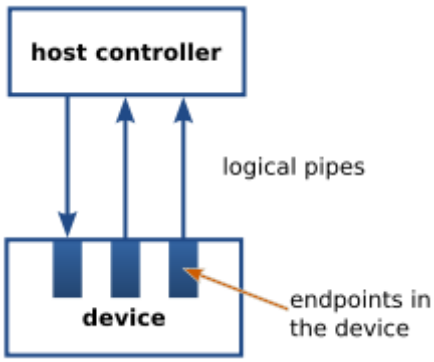


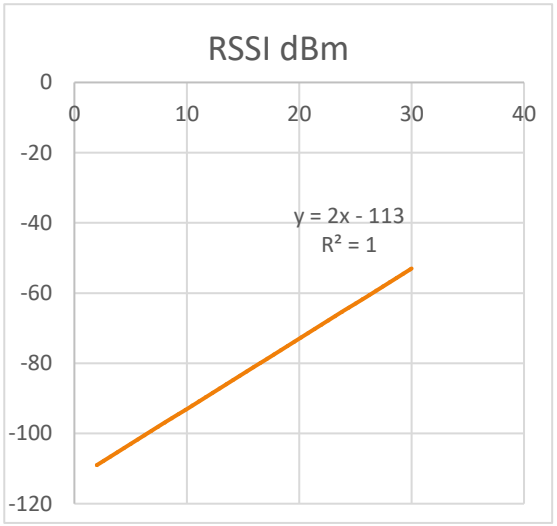
Figure 8 USB endpoints actually reside on the connected device

9 CALIBRATION

GSM dialer update signal strength every 15 sec that can be observed in PC application. GSM Received Signal strength indicator (RSSI) is in dBm Decibel-milliwatts. PC Application shows the condition based on below table dBm values. Depending upon the area and service provider, excellent condition can be acquired.

Table 3 Signal Strength Calibration

Sr. No.	Value	RSSI dBm	Condition And Bars color in PC Application	%; 100 times
1	2	-109	Marginal	0
2	3	-107		357
3	4	-105		714
4	5	-103		1071
5	6	-101		1428
6	7	-99		1785
7	8	-97		2142
8	9	-95		2499
9	10	-93	OK	2856
10	11	-91		3213
11	12	-89		3570
12	13	-87		3927
13	14	-85		4284
14	15	-83	Good	4641
15	16	-81		4998
16	17	-79		5355
17	18	-77		5712
18	19	-75		6069
19	20	-73	Excellent	6426
20	21	-71		6783
21	22	-69		7140
22	23	-67		7497
23	24	-65		7854
24	25	-63		8211
25	26	-61		8568
26	27	-59		8925
27	28	-57		9282
28	29	-55		9639
29	30	-53		9996



10 TROUBLESHOOTING

10.1 GSM DIALER HARDWARE

1. **How to connect an antenna in SMA connector? Which type of antenna is more preferable male or female?**
- This modem consist of Female SMA Connector. Thus male antenna connector is used. Generally Antenna plug (SMA) is female and Antenna socket is male Connector.
2. **Is it possible to keep GSM Dialer without antenna?**
- Yes, it is Possible to keep GSM Dialer without antenna, but it is Preferable to use antenna.
3. **What should be the max length of an antenna to be connected to a GSM Dialer? Is it necessary to use certain specified antenna?**
- Not Necessary for this device. Generally its dimensions are roughly 115x22x4 (mm) allowing gain of about 3.5dBi. Applicable for Quad band Frequencies.
4. **What is the range of input Supply voltage for GSM Dialer?**
- Input Supply range for GSM Dialer is 9-24V (max) DC Supply.
5. **What is the maximum Power consumption of GSM Dialer?**
- The maximum power Consumption for GSM Dialer is 450mW.
6. **How and where to connect power cable in GSM Dialer?**
- Refer to section 3.1.2
7. **How and where to Connect USB cable in GSM Dialer?**
- Refer to section 3.1.4
8. **How to supply power to GSM Dialer?**
- It is better to give an independent uninterrupted supply to GSM Dialer. It can be require supply from some other device as well. In case of supply failure the GSM Dialer will give an alert.

10.2 GSM DIALER INSTALLATION

1. **How to Setup the GSM and device?**
- Connect the device to GSM modem using USB as per the device support. Then switch ON the module first and then after 10-15 sec switch on the device. If any indication for startup of device is set as a message, it will respond and MSG will be sent to all the user set in phone book of GSM.
2. **How to test the Connectivity of GSM modem?**
- If the Network LED is blinking at 1 sec means network failure is there. If it is blinking at 2 sec means connectivity is OK. Also the Process LED is turn to RED from GREEN in case of any ERROR/FAILURE in the GSM else it will remain GREEN.
3. **How to test GSM modem manually?**
- Nothing Specific to check the GSM. There is only one way to can check whether the Modem is ok or not: Send message to GSM using protocol. If Response is obtained then it is working properly and status LED turns green.

10.3 GSM DIALER COMMUNICATION

1. **How can we assure that our device alert messages are properly transferred to the GSM?**

- Initially check the connecting cable (RS232) or USB are working or not. If yes, then check for the LED on GSM. If they are working properly. Even then if the device variation remains contact the Company.

2. **Does GSM Dialer stops responding if it is kept ON for long time?**

- First Check for the Status LED, Network LED and Process LED, whether they are working properly or not. If found OK.
- Check for the Insertion of SIM Card in the GSM Dialer whether it is properly inserted or not.
- Check the Balance in SIM if prepaid or SIM Subscription. If Found OK.
- Still problem persist Contact Support team.

3. **Sometimes GSM Dialer gets dumb it stops responding and while resetting the GSM Dialer it starts working in Normal mode?**

- First Check for the Status LED, Network LED, and Process LED, whether they are working properly or not. If found OK.
- Check for the Insertion of SIM Card in the GSM Dialer whether it is properly inserted or not.
- Check the Balance in SIM if prepaid or SIM Subscription. If Found OK.
- Still problem persist Contact Support team.

4. **How can we know at once that there is a failure in the GSM modem?**

- There are LED indication given. If the Status LED is "OFF" that means GSM modem is off. If the Network LED is blinking at 1 sec means network failure is there. The Process LED is turn to RED from GREEN in case of any ERROR/FAILURE in the GSM.

5. **In Case of Power failure in the device there is no alert message for that in GSM Dialer, as it is there for device on power up mode?**

- Yes, alert message is available. But if the GSM Dialer is separately provided with an uninterrupted supply then any failure in connected device will be reminded or alerted to the listed members in GSM Dialer.

6. **How does the Communication of GSM Dialer with Recorders can be carried out?**

- Initially connect the power cable in GSM. Connect USB cable to GSM Dialer. Then as there is any alert obtained to GSM Dialer from alert inputs, the alert message and preloaded voice call transfer to all listed numbers in GSM Dialer and report will generate in PC application.

7. **How long GSM Dialer takes to get into normal mode after starting it?**

- It takes about 10-15 sec to get in to stable state.

10.4 SIM CARD

1. **What happens if SIM Card is not registered? Is there any indication related to this given in GSM module?**

- If the SIM Card is not registered the Network LED will be blinking at 1 sec. This signals a registration failure or a network failure. Also the Process LED is turn to RED from GREEN in case of any ERROR/FAILURE in the GSM.

2. **Which service provider of SIM CARD is preferable for modem?**

- It is not specific to Modem. It is preferable to have service provider who's frequent in your respective area. We have tested this device using IDEA postpaid and performance was good. It is preferable to have postpaid connection.

3. **Will the GSM Dialer support 3G SIM card?**

- Yes, it's a GSM module and support 2G GSM only. But it's a Quad band module caresses 850/900/1900/1800 MHz band so it can be used anywhere in the world and a 3G SIM will work as 2G.

4. **Where and how to install SIM Card in GSM Dialer?**

- SIM Card Connector is provided just below RS232 Connector in GSM Dialer.
  Refer to section 3.

5. **Can we set 00 minutes in partial disarming command and send request to GSM Dialer?**

- NO, it's meaningless. Doing so, the GSM Dialer will respond with an error message; ERROR 05: Invalid Disarming Time Request.

6. **Is it Necessary to erase messages from SIM Card?**

- NO, there is no requirement to make any changes in the SIM Card Message entries. It will not hampers the working of GSM Dialer.

10.5 GSM MESSAGES

1. **Sometimes GSM modem surprisingly starts sending garbage Message instead of important messages?**

- Format the SIM by deleting all entries in it. Set the SIM as per your requirements. Start the GSM Dialer. If the problem still persist contact support team.

2. **What are the possible error message that are received during a fallacy protocol typed?**

- Following are the Errors generated regarding protocol malfunction:
  1.) ERROR 01: Invalid Command Code
  2.) ERROR 02: Invalid Phone Number
  3.) ERROR03: Invalid Syntax
  4.) ERROR 04: Invalid Index No.
  5.) ERROR 05: Invalid Disarming Time Request

3. **When does the ERROR 01 occur?**

- If the Command code entered in protocol is other than 123, then ERROR 01 will occur.

4. **When does the ERROR 03 occur?**

- If the string entered as protocol message is more or Less as per the fixed number of protocol string then ERROR 03 is generated.

5. **When does the ERROR 04 occur?**

- If the Index number entered in protocol is other than 01, 02 or 03 then ERROR 04 is generated

6. **When does the ERROR 05 occur?**

- If partial Disarming time request entered in protocol is not proper, then this error is generated.

7. **In case of Failure in sending Message from GSM an Error in sending SMS is to be ACK to Admin?**

- No, any error in sending message that occurs in GSM Dialer is not ACK to any of the listed person. This is because the sending try for any failure in sending will be repeated for 5 times so it is enough to get over any uneven sending failure.

8. **If message is subjected to GSM and call is observed simultaneously, will the GSM respond to the SMS?**
- Yes, GSM will still respond in that situation.
9. **Will it be helpful if we register our SIM for SMS purpose only?**
- Yes, unwanted call will get rid of.
10. **Can't we set the command code to make the protocol more secure?**
- No, Command code is not specific to single Piece of Product. But is generic to product so it has to be kept common.

10.6 GSM PHONE NUMBER ENTRY

1. **Is there any necessary criteria to be followed before entering the phone number?**
- YES, initial (very first) number to be entered as 10 0's (0000000000). This is to be entered manually in SIM.
2. **Is it necessary to keep GSM in an open space near the device? We are having a small area that is too congested near the device wherein we have to fit the modem?**
- For this there is network LED along with a Query for Signal Strength that can be observe in PC application. Also the Process LED is turn to RED from GREEN in case of any ERROR/FAILURE in the GSM. If the strength is as per the recommended value it will be fine to mount the GSM on the particular area.
3. **Does this device carries a Bluetooth option as well?**
- No, Instead the Modem provides with RS232 connection, USB and TCP/IP.
4. **Is there any security regarding the entry of Phone number in phone book entry of GSM?**
- YES, the first number in phone book has to be 10 0's (0000000000). Furthermore this is to be entered manually in the SIM card. Then and only then rest of the number can be set in phone book entry.
5. **Why is it bound to enter the phone number in ISDN (Integrated services for digital network) format only?**
- This is because the product merely is not restricted to a single country or state so if ISDN format is used, it can be used anywhere in the world without any hindrance.
6. **Restricted phone book entry to 20?**
- It is not completely restricted if any requirement comes it can be look upon.
7. **Is there possible to update Time request of partial disarming in arming or disarming mode?**
- Yes, new request sent from admin that accept GSM even any mode GSM is working ,soon as GSM accept new request it start reacting updated request even in time duration changes in partial disarm that changes of time is also possible.
8. **When there is an error in '#' protocol there should be some kind error message to be provided?**
- There is an error message for string entered command code, phone number and index number. Here in "# "is not considered in error because any of irrelevant message is received the GSM would respond to it and it is very much unnecessary.

10.7 ALERT PRIORITY

1. **Terminated low priority alert when high priority occurs is it possible that remaining works of terminated low priority services after completion of high priority event.**

- No, once low priority terminated due to low high priority, after completion of high priority it starts services pending high priority alerts during that work same low priority come that cane process according to priority base.

11 STANDARD ACCESSORIES

11.1 3 DBI ANTENNA (NOMINAL ANTENNA)

Figure 9 Normal Antenna with 3dbi gain

Specifications: -

Electrical Characteristics

Frequency Range –MHz	800MHz-960MHz,1880MHz 1930MHz
V. S. W. R	2. 0
Gain-dBi	2. 0
Polarization	vertical
Impedance-Ohm	50
Maximum input power-w	10

Mechanical Characteristics

Connector	R/A SMA Male
Height-mm	50
Radome material	Plastic
Radome color	Black
Operation temperature-degree C	-30~60
Humidity-%	5~95

11.2 ADAPTOR

Figure 10 9-30V DC @ 1Amp Adaptor

Input Voltage: 200-240V AC @ 1Amp.

Operating Frequency: 50 to 60Hz.

Output voltage: 9-30V DC @ 1Amp

11.3 USB CABLE

Figure 11 USB Cable

30cm USB 2.0 Cable.
24 AWG copper
USB Mini-B to USB type A
The cable includes a common mode choke/filter for noise reduction.

12 SPECIFICATION

Table 4 Specification

Sr. No	Parameters	GSM Dialer
1	No of Inputs	5, Potential free contacts.
2	Display	LEDs for status / errors
3	SMS alerts	Max 15 numbers, 135 characters long alerts can be stored in memory
4	Messages	Field programmable
5	No of Mobile Numbers	User can store / erase / update up to 15 mobile numbers for sending messages
6	Network status	Network Healthy / Failure indicator
7	RTC	Yes
8	Memory Storage	Last 500 records of all the error condition occurrences.
9	Voice Recording	Through microphone
10	No of Messages	One
11	Arming / Disarming	User can activate / deactivate GSM dialer by sending a SMS from Admin mobile number.
12	Communication	USB
13	Audio Alarm	Buzzer output on alarm condition
14	Hooter Output	A potential free contact (NO-C-NC), to connect a hooter.
15	Relay rating for Hooter	3A 30V DC Contact rating;
16	Battery	Standard mobile Ni-MH battery will be used as a backup
17	Battery Charger	Built-in; with protection
18	Battery low indicator	No
19	Battery Back-up	24hrs approximate
20	Power	230V; 50Hz AC mains operated.
21	PC Application	To download data and configure messages, phone numbers etc.

13 ORDERING CODE

Table 5 Ordering Code

GSM Order Code For Customer

Series		No Of Alerts		GSM Interface		Voice Message		Power		Alarm		PC Interface	
7	GSM	0	3	0	MSG	0	No ne	0	12V DC	0	None	0	USB
		1	5	1	Call & Msg.	1	1 Voice Msg.	1	Battery Backup	1	Buzzer	1	TCP/IP
		2	10			2	2 Voice Msg.			2	Buzzer &Relay		
		3	15			3	4 Voice Msg.						

No Of Mobile Contacts		Memory	
0	5	0	None
1	10	1	512
2	15	2	1024
3	20	3	1536