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PSTN Alert To Ethernet/Wireless Alert!

Compatible With Most Of The PSTN Security Control Panel.

Special Designed For Your Existing PSTN Alarms Systems!

GSM/3G/4G LTE Communicator

PSTN SIA DC-05 Protocol to SIA DC-09 Protocol & SMS Alert

KING PIGEON

Best choice for traditonal PSTN CID security system to upgrade!

Gsm/3G/4G LTE Modular system and Ethernet GPRS Communicator K5S

User Manual

Ver 1.3

Model: K5S

Date Issued: 2018-12-20

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www.GsmAlarmSystem.com

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This handbook has been designed as a guide to the installation and operation of GSM Communicator.

Statements contained in the handbook are general guidelines only and in no way are designed to supersede the instructions contained with other products. We recommend that the advice of a registered electrician be sought before any Installation work commences.

King Pigeon Communication Co., Ltd, its employees and distributors, accept no liability for any loss or damage including consequential damage due to reliance on any material contained in this handbook.

King Pigeon Communication Co., Ltd, its employees and distributors, accept no liability for GSM Network upgrading or SIM Card upgrading due to the technology specifications contained in this handbook.

【UPDATE HISTORY】

Date	CONFIGURATOR VERSION	FIRMWARE VERSION	HARDWARE VERSION	DESCTIPTION
2017.08	V1.1			The first version
2018.12	V1.2	Dec 7 2018	K5S B2	Add “Event Code” setting

Safe Startup

Do not use the unit when using GSM/3G/4G equipment is prohibited or might bring disturbance or danger.

Interference

All wireless equipment might interfere network signals of the unit and influence its performance.

1. The Introduction

The GSM/3G/4G Communicator K5S is specially designed for your existing alarm systems. It's compatible with the majority of Security Manufacturers' Control Panels.

The GSM/3G/4G Communicator K5S can transfer the Alert Message from your PSTN Contact ID (SIA DC-05) Control panel into SIA DC-09 protocol over Ethernet/GPRS network and SMS notification. It could change the way of alert notification from traditional PSTN alert to Ethernet/wireless alert (SIA standard DC-09 requirements).

Notice:

*The '**K5S**' will be written in the following contents below instead of '**GSM/3G/4G LTE Communicator K5S**'.*

2. The Specifications

Signal Frequency	GSM850 / 900 / 1800 / 1900 MHz (3G/4G module optional) ; For example: Customer only need to replace the module for upgrading K5S from 3G to 4G
Communication Ways	Ethernet & TCP/IP via GPRS
Message Transmission Protocols	SIA DC-09-2007 or SIA DC-09-2012 (K5S) SIA DC-05 (PSTN Control Panel)
Outputs	OUT1, OUT2 ,OC type, communicates voltage of up to 30 V and direct current of up to 1 A
Configuration	via USB port or SMS commands
Power Supply	DC 9V ---24 V
Used Current	10 ---30 mA (on standby), up to 70 mA (while sending data)
Workplace	Temperature from -10C to +50C, Relative humidity up to 80 % when +20 C
Backup battery	900mAH
Exterior dimension	105 mm * 88 mm * 30 mm (W*D*H)

3. The Features

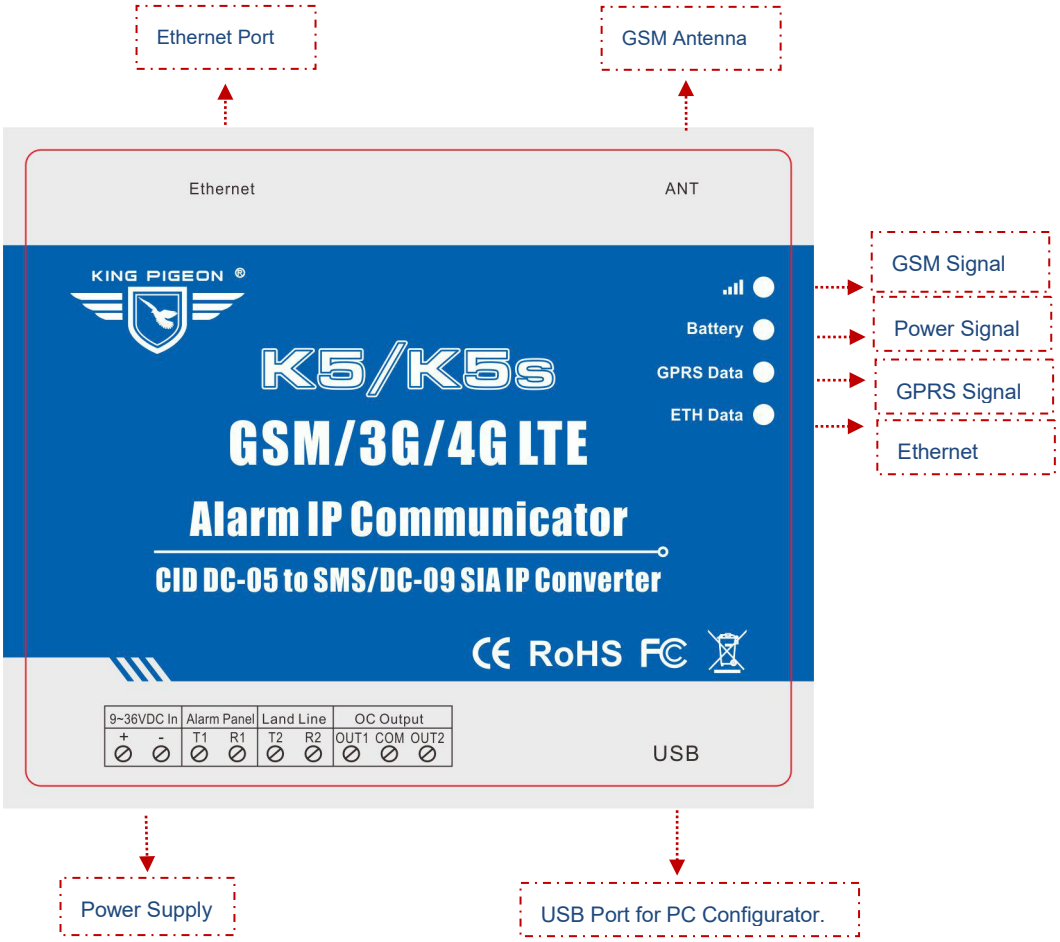
- Easy programmed by PC configuration, compatible with most Control Panels,
- Support modular system, upgrade 3G/4G only need to replace the module.
- Supports transferring data by PSTN Ethernet or GPRS, SMS (*no phone call*),
- Supports 2 different CMS centers (IP addresses or DNS server).
- SMS notification when the connection with the CMS center is failed (*3 trial times*).
- When PSTN network failed, it will send the alert message to the center by Ethernet/GPRS network,
- When the PSTN network good, then it will not use GPRS network etc. for transferring alert message,
- 5 users to receive SMS notification on Alarm, Supervision, Trouble, By pass, Test, GPRS fail, DC loss,
- SMS commands to check the device version, IMEI code, GSM signal,
- 2 OC outputs which could be controlled by SMS commands, output pulse time can be set.
- Support firmware upgrading via USB.
- Supports PIN code verification in PC configurator.
- Remote configuration by SMS commands.

- Backup rechargeable battery, with DC power failure SMS alert.

4. The Standard Package

Main Panel x 1,
Antenna x 1,
AC/DC adaptor(12V/1A) X 1,
USB cable x 1,
CD (User Manual & PC Configurator) x 1.

5. The Overview of Main Panel



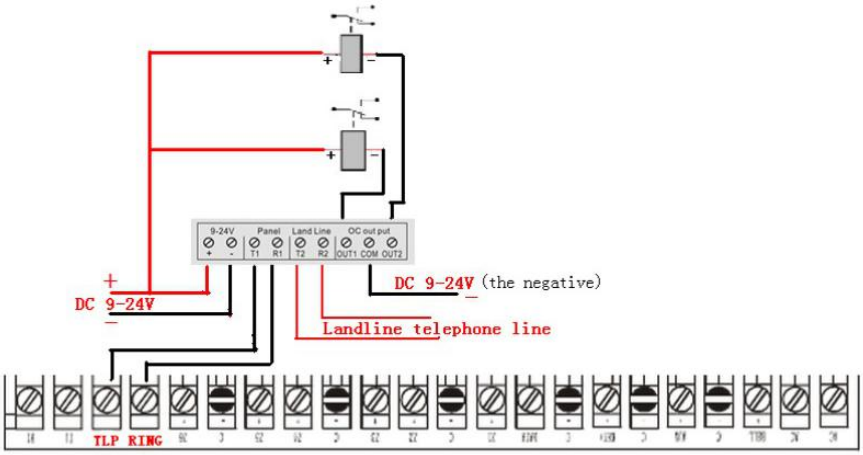
Panel T1 R1	**T1:** Connect with the ***'TLP'*** in PSTN control panel **R1:** Connect with the ***'RING'*** in PSTN control panel
Land Line T2 R2	**T2:** Connect with the Land Line **R2:** Connect with the Land Line *(Notice: No connection means the control panel will transmit the message only via GPRS.)*
OC out put OUT1 COM OUT2	**OUT1:** 1st Outputs, OC type. **COM:** General terminal. **OUT2:** 2nd Outputs, OC type.

6. The Indicator Lights

	[RED]: GMS Indicator, blinking every 0.5s means registering the network, when the GSM signal is normal, it will keep blinking every 1s.

Battery	[RED]: Power Supply Indicator, blinking every 1s means the battery is on charge, the ON means the battery is in full charge, OFF means Disconnection with the external power adapter.
GPRS	[RED]: GPRS Data Indicator, it will keep blinking every 1s when K5S is transferring GPRS data.
ETH	[RED]: Ethernet indicator, it will keep blinking when K5S is transferring GPRS data; Keep ON means Ethernet connect to the server successfully.

7. The Connection



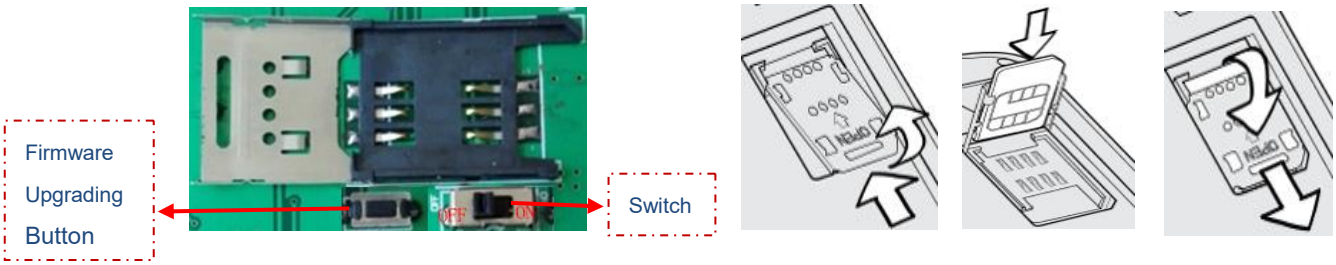
8. The Installations

Notice:

There are 2 ways for settings: PC configuration & SMS commands. Please install the USB Driver before using the PC confirgurator.

8.1 Install the USB Driver on PC.

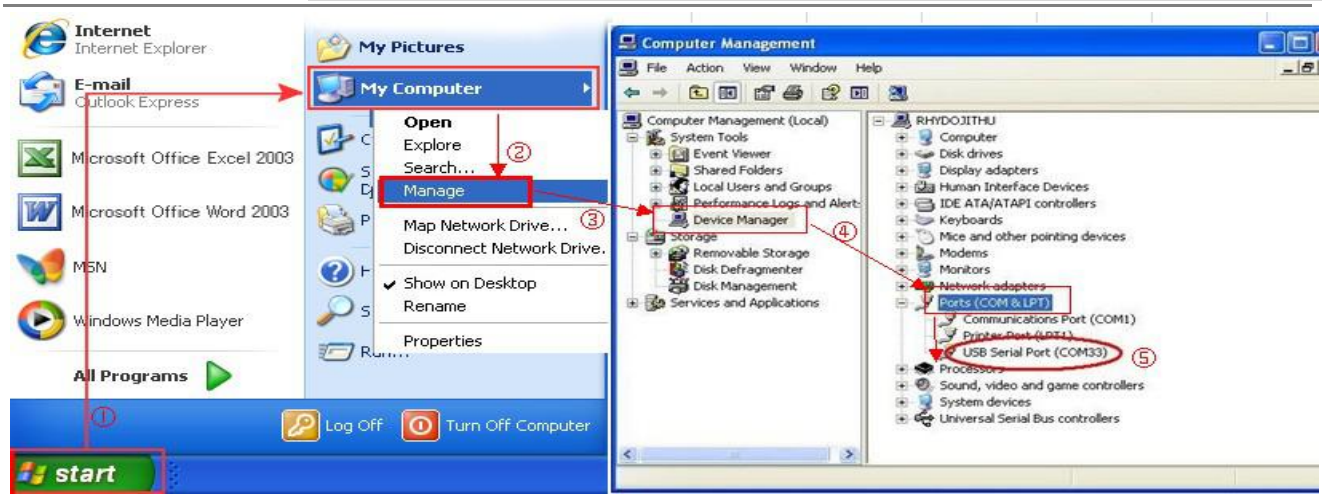
1) Screw the GSM antenna,
2) Open the cover on the back the ***K5S*** to find the SIM card holder, and insert the SIM card as below:



3) Turn on the power supply and switch K5S on, and check the GSM Signal Indicator light to confirm the SIM card in K5S is working well. please check the indicator lights details in 【6. The Indicator Lights】.

8.2. Install the USB Driver on PC.

1) Click **HERE** to download and install the latest ***USB Driver*** according to your PC operation system.
2) Connect the **K5S** to the Computer via USB cable,
3) Find the **USB Serial Port** as picture below. (*This COM port number will be used in PC configurator*).

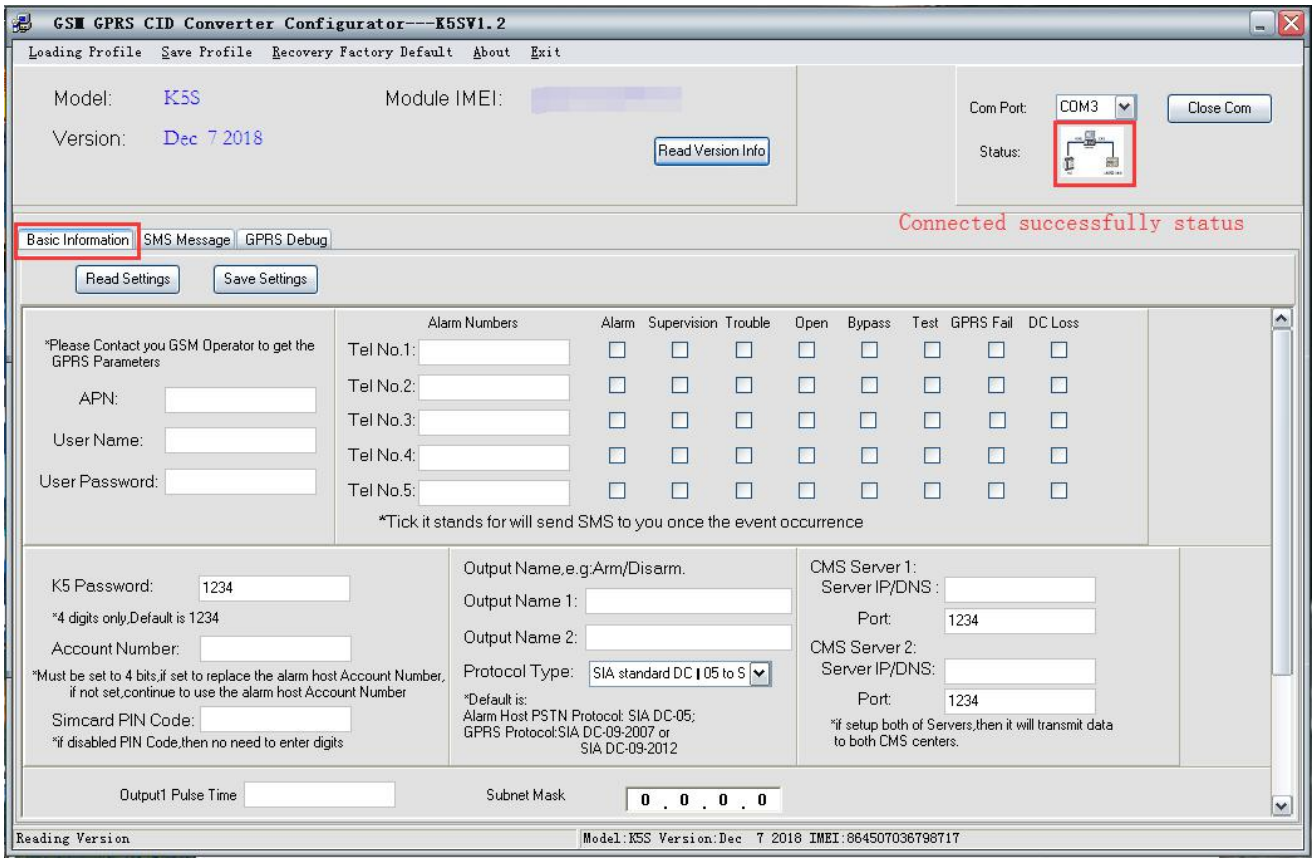


8.3. Settings in PC Configurator

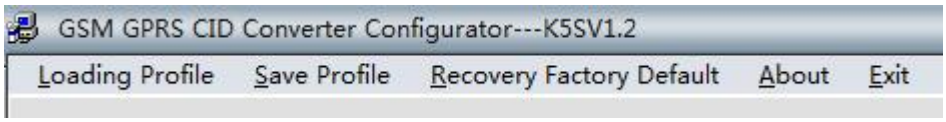
Choose the ***USB Serial Port*** according to 【***8.2. Install the USB Driver on PC***.】, and click open Com , it will come to the Basic Information window as below:

Notice:

When the settings in current window is done, please click Save Settings *to complete the configuration.*

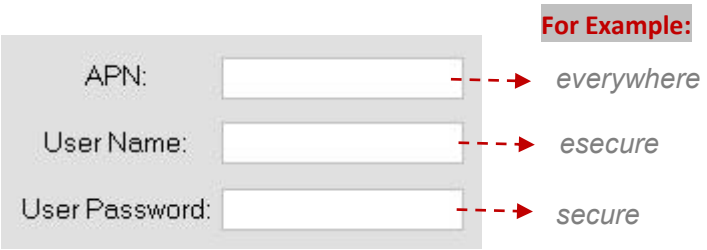


8.3.1 The Menu Bar of the PC configurator



Loading Profile	[Alt + L]: Load the setting profile that you have saved before
Save the Profile	[Alt + S]: Save the settings to the local
Recovery Factory Default	[Alt + R]: Reset the K5S device back to the factory
About	[Alt + A]: The information about the K5S
Exit	[Alt + E]: Exit the PC configurator.

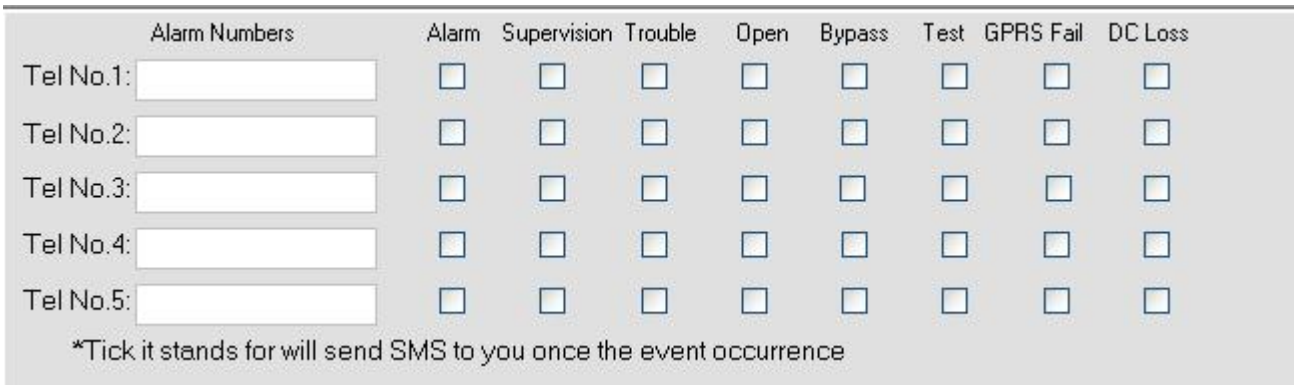
8.3.2 GPRS data Parameter Setting



Notice:

The example provided by Orange UK above is only for reference, please contact your local GSM operator for the settings accordingly. If the local GSM Operator does not use APN anymore, please ignore the settings in this part.

8.3.3 The Phone Numbers for Events Notification



Tel No. 1 – No. 5	The phone numbers for the SMS notification.
Alarm	Ademco® Contact ID Protocol Events Codes.
Supervision	
Trouble	
Open	
ByPass	
Test	
GPRS Fail	The GPRS message transmission failure notification from K5S .
DC Loss	The external DC Power Loss notification from K5S

Notice:

1) *Tick it stands for the phone numbers in the list will receive the SMS notification when the event occurred.*
2) *Only for SMS notification, no voice communication.*
3) **18676734714** *is the phone number only for example. If the K5S can't work, please add your country code in front of the phone number.*

8.3.4 Set the Password and PIN Code Verification

K5 Password: 1234

*4 digits only,Default is 1234

Account Number:

*Must be set to 4 bits,if set to replace the alarm host Account Number, if not set,continue to use the alarm host Account Number

Simcard PIN Code:

*if disabled PIN Code,then no need to enter digits

Notice:

The "K5 Password" is the password for the setting of ***【9. The SMS Commands.】*** *.*

The "Account number."can set to replace the PSTN panel account when upload via GPRS.

8.3.5 Set the OC Outputs Names

Output Name,e.g:Arm/Disarm.

Output Name 1:

Output Name 2:

Protocol Type: SIA standard DC | 05 to S

*Default is:
Alarm Host PSTN Protocol: SIA DC-05;
GPRS Protocol:SIA DC-09-2007 or
SIA DC-09-2012

The name of the 1st Output, default: DO1

The name of the 2nd Output, default: DO2

Alarm Host PSTN Protocol: SIA DC-05.

GPRS Protocol: SIA DC-09-2007/2012.

Notice:

The max characters for the Output Name is 40, these names will be displayed in the SMS notifications.

8.3.6 Set the CMS Server IP address and Server Port

CMS Server 1:

Server IP/DNS :

Port: 1234

CMS Server 2:

Server IP/DNS:

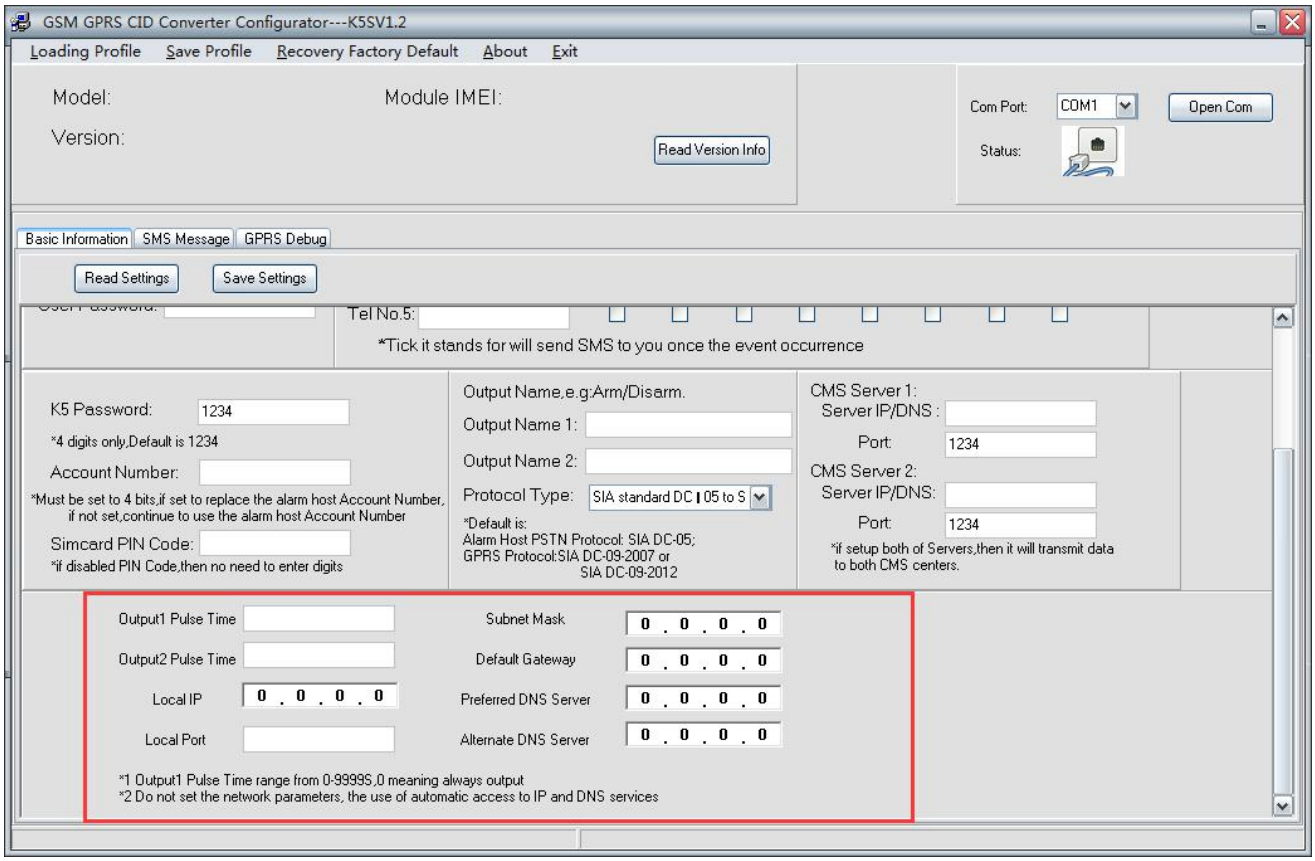
Port: 1234

*if setup both of Servers,then it will transmit data to both CMS centers.

Notice:

The alert messages will be transmitted to Sever 2 (backup) once Server 1 failed after both of them are set.

8.3.7 Set the Output pulse time and Ethernet parameter



Output Pulse Time	0~9999S
Ethernet Parameter	Default "0",means getting IP and DNS automatically
GPRS Module (optional)	**a**.1)With GPRS module, if not connect the Ethernet, device will send SMS: "**Ethernet connection failed, please check the wired network!**" 2) With GPRS module, if the Ethernet connect the server failed or server not response, will SMS" **ETH Connect Failure**" At this time, the alert will transfer the data via GPRS; But if Ethernet connect successfully and server response well, then not transfer the data via GPRS. **b**. Without GPRS module, only transfer data via Ethernet.

8.3.8 The other buttons in PC configurator

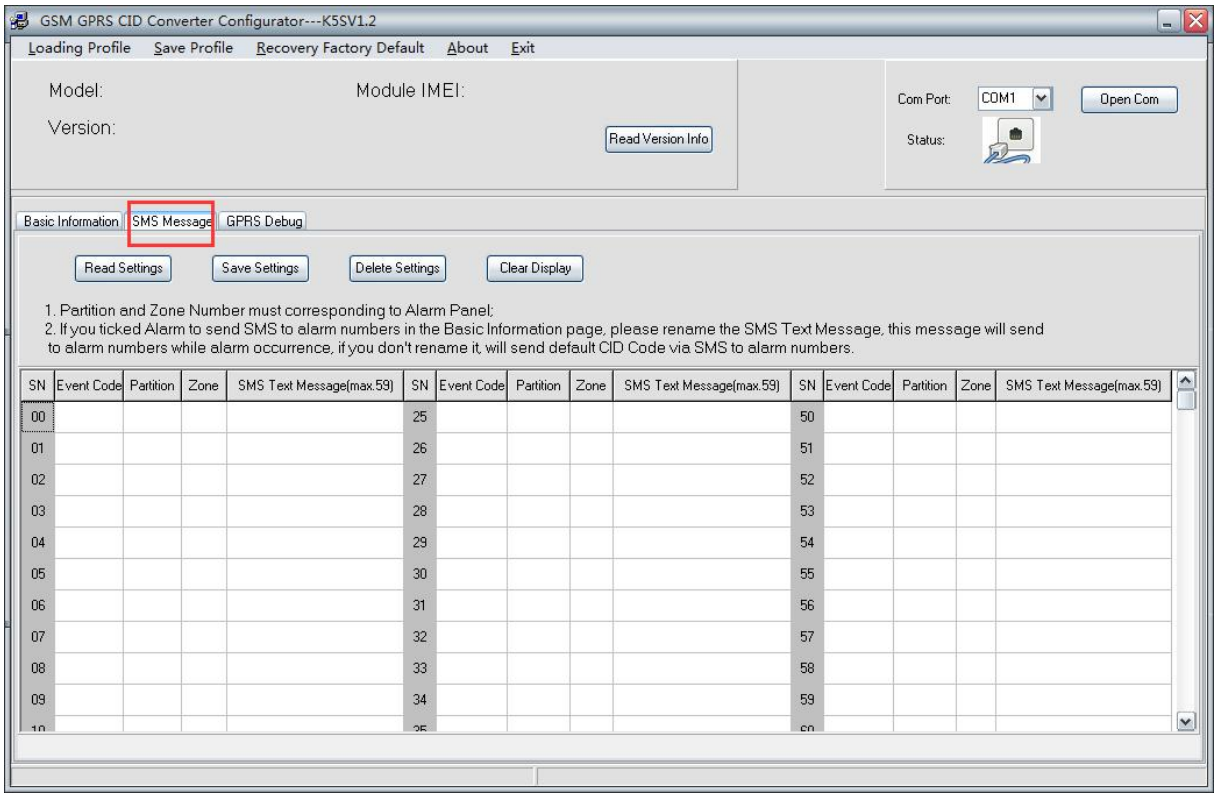
open Com	Open the USB serial Com Port.
Close Com	When it displayed, it means successful connection.
Read Versiona Info	Read the device model, IMEI Code, Version.
Read settings	Read the existed setting data in the K5S.
Save Settings	Click this button to complete the current settings.
Delete Settings	Delete all the setting data in K5S.
Clear Display	Clear the words displayed in the current windows (The existed settings will not be cleared).
Clear Received Data	Clear the data K5S have received in the current window.

Clear Sent Data	Clear the data K5S have send in the current window.
Stop Debug	Stop the debug.

Notice:

There are three different windows in PC configurator: Basic Information , SMS Message , GPRS Debug .Please click the Save Settings when the setting data in the current windows is completed.

8.3.9 Set the SMS Notification Contents



Event Code	Set it according to PSTN control panel,3 digits
Partition	Set it according to PSTN control panel,2 digits
Zone (64 zones)	Set it according to PSTN control panel,3 digits
SMS Text Message (Max 59 characters)	SMS alert content when the zone in the PSTN control panel is triggered.

Notice:

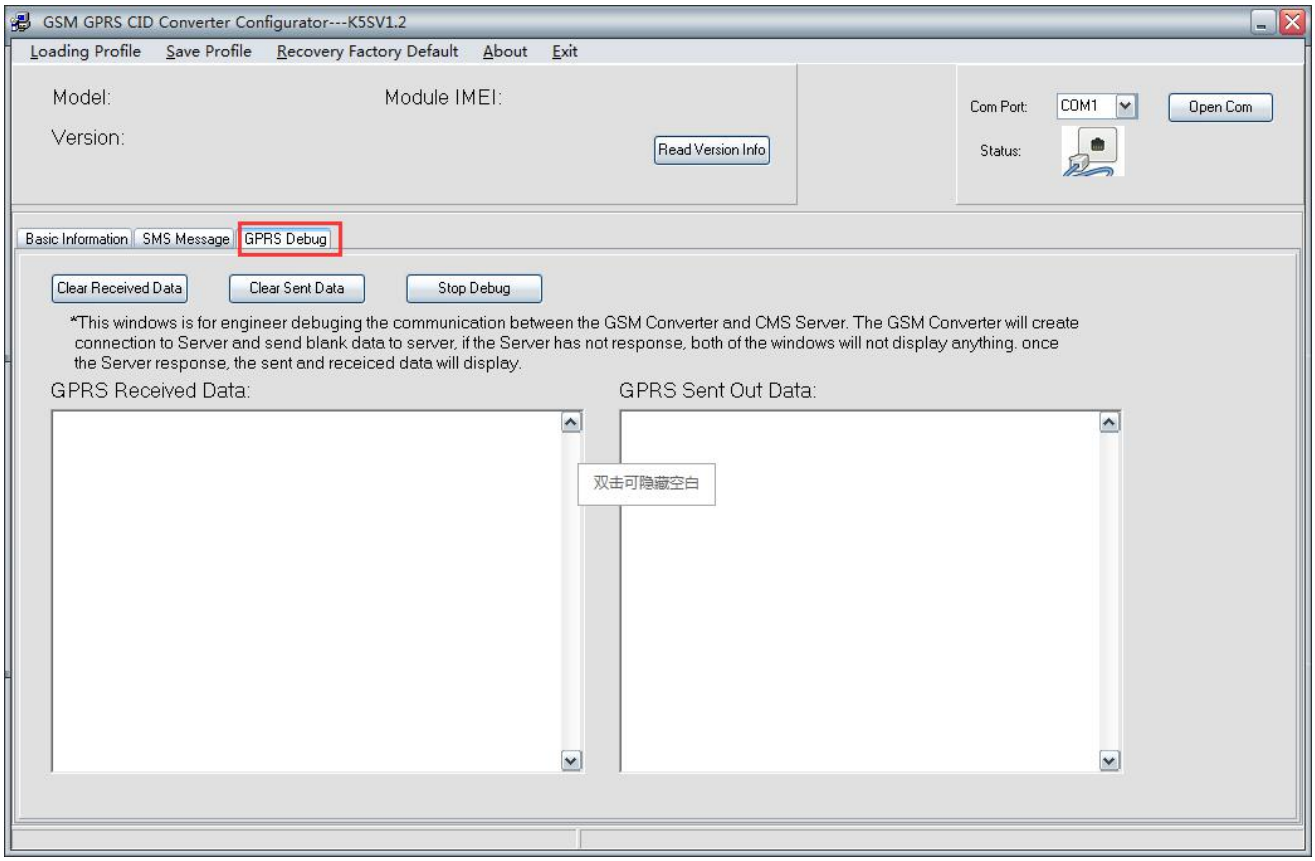
1.Please reference Contact CID protocol when you configure.

2.SMS notification content will show event qualifier;

3.When above parameters are set to be consistent with PSTN control panel, the device will send the correct alarm message according to the SMS Notification Contents that user sets.

4.If event code isn't set correctly,the alert SMS K5S sends will be according to the event alarm information in the Contact CID protocol.

8.4.0 Engineer Debug for GPRS Data Transmission



9. The SMS Commands

The SMS commands below are send to the SIM card of K5S for remote configuration, and the SMS commands are only used when you are not able to program the K5S by the PC configurator.

Notice:

1) All the letters in SMS commands must be CAPITALIZED under the English format.

2) The Examples below are only for reference, please send the SMS commands according to your actual situations.

3) The Password below is the default password (1234), please use the new password in the SMS commands when the default password was changed.

1）When the wrong SMS commands was send:

SMS Commands	Return SMS Message
	SMS Format Error, Please check Caps Lock in Command!

Notice:

If any SMS command with the wrong format was send, you will receive a SMS notification as above.

2）When the external DC Power loss/Recovery

	Return SMS Message
DC Loss	External DC Power Goes OFF
DC Recovery	External DC Power Goes ON

3）Change the password (The default password is 1234, with 4 digits):

SMS Commands	Return SMS Message
Old Password＋P＋New Password	【New Password】,This is the New Password, please remember it carefully.
For Examples: 1234P4321	【4321】,This is the New Password, please remember it carefully.

Notice:

When the password was forgot, please reset the device from the PC configurator.

4）Inquiry the device information remotely

SMS Commands	Return SMS Message
Password+EE	Model: Version: IMEI: GSM Signal Value:
For Examples: 1234EE	Model: *K5S* Version: *V 1.00 2015-12* IMEI: *867965029050313* GSM Signal Value: *30*

Notice:

1) *Every K5S has a unique IMEI code for firmware upgrading.*
2) *The GSM Signal Value range: 1~31.99, Signal weak value: <16.*

5）Program the 5 mobile phone numbers (the max is 23 digits) for SMS notification.

Actions	SMS Commands	Return SMS Message
Set Mobile Phone Numbers	Password+A+Serial Number +T+ Phone Number **For Example: 1234A3T13570810254**	Tel1: --- Tel2: --- Tel3: 13570810254 Tel4: --- Tel5: ---
Inquiry the whole numbers list	Password +A **For Example: 1234A**	The list of the exiting numbers
Delete the phone number in the existing numbers list	Password＋A＋Serial Number **For Example: 1234A3**	The list of the exiting numbers

Notice:

1) *The Serial Number: **1 ~ 5**.*
2) *These mobile phone numbers are ONLY used for the SMS notification, no voice notification.*
3) *It makes no difference for adding country code or not in front of the mobile phone numbers.*

6）Program the OC Outputs

Actions	SMS Comands	Return SMS Message
Set the name of the OC outputs	Password+DO+Serial Number+T+the name **For example: 1234DO1TOutput 1 for Arm.**	DO1: rename: xxxx **Example**: DO1: rename: Output 1 for Arm.
Inquiry the name of the OC outputs	Password+DO+Serial Number **For example: 1234DO1**	DO1: Output 1 for Arm
Delete the name of the OC outputs	Password+DO+Serial Number+DEL **For example:1234DO1DEL**	DO1: Output 1 for Arm
Switch the relay on	Password+DOC+Serial Number	DO1: ON

	For example:1234DOC12 It means switch on both the 1st output and 2nd output *(The serial number is 1 or 2 or both)*	DO2:ON
Switch the relay off	Password+**DOO**+Serial Number **For example:1234DOO12** It means switch off both the 1st output and 2nd output Or both. (The serial number is 1 or 2 or both)	DO1: OFF DO2:OFF
Inquiry all the current status	Password+**DOE** **For example:1234DOE**	DO1: ON/OFF DO2:ON/OFF ---
Pulse output time	Password+**DOP**+Serial Number (1 or 2) +**T** Time(Max 4 digits,9999s) Default: 0s ,means always keep close	DO(1 or 2) Pulse Output Time： xxxS
Inquiry output time	Password+**DOT**+Serial Number (1 or 2)	DO(1 or 2) Pulse Output Time： xxxS
Pulse output control	Password+**DOP**+Serial Number (The serial number is 1 or 2 or both)	

Notice:

1. *The Serial Number: **1** means the 1st output, **2** means the 2nd output, **12** means both the 1st output and the 2nd output.*
2. *The name of the outputs is 40 characters (Max.)*

7）Program the GPRS IP Sever and the Port:

Actions	SMS Commands	Return SMS Message
Settings	Password+**IP**+ IP address +**P**+Port Number **For example:1234IP183.12.162.70P4005**	Server: Port:
Inquiry the settings	Password +**IP** **For example:1234IP**	
Delete the exiting setting	Password+**IP**+**DEL** **For example:1234IPDEL**	

Notice:

Only the 1st server IP could be programmed via SMS commands, and please program the 2nd server IP via PC configurator.

*More details please visit: 【**8.3.6 Set the CMS Server IP address and Server Port.**】*

8）GPRS data Parameter Setting（APN/USER NAME/PASSWORD）

Actions	SMS Commands	Return SMS Message
Settings	Password+**AP**+APN;User Name;Password**#** **For example:1234APeverywhere;esecure;secure#**	APN: User Name: Password:
Inquiry the settings	Password+**AP** **For example:1234AP**	
Delete the exiting setting	Password+**APDEL** **For example:1234APDEL**	

10. Warranty

1) This system is warranted to be free of defects in material and workmanship for one year.
2) This warranty does not extend to any defect, malfunction or failure caused by abuse or misuse by the

Operating Instructions. In no event shall the manufacturer be liable for any alarm system altered by purchasers.

The End!

King Pigeon Communication Co., Ltd.

Professional GSM/3G/WIFI Security Alarms Manufacturer and M2M Solution Provider since 2005.

www.GsmAlarmSystem.com

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