<image>

Smart GSM+SMS GPRS+3G M2M RTU

# GSM 3G M2M RTU





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**Automation solution** 

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This handbook has been designed as a guide to the installation and operation of GSM 3G RTU S270 and S271. 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.,Limited. 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.

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Model	GSM/3G	Precision	DIN	AIN	<b>PT100</b>	DO	T/H	Register	Record	Port	
<mark>S270</mark>	V	12bit	<mark>2</mark>	<mark>2</mark>	<mark>0</mark>	<mark>2</mark>	1	X	<mark>200</mark>	USB	
<mark>S271</mark>	V	12bit	<mark>4</mark>	<mark>4</mark>	<mark>0</mark>	<mark>4</mark>	1	X	<mark>200</mark>	USB	
S271-PT	V	12bit	4	0	4	4	1	Х	200	USB	
S271-PTA	V	12bit	4	2	2	4	1	Х	200	USB	
<b>S272</b>	V	12bit	8	6	0	4	1	Х	TF Card	USB/RS232/RS485	
<b>S273</b>	V	12bit	8	6	0	4	1	64	TF Card	USB/RS232/RS485	
\$275	V	16bit	Q	6	0	4	1	64	TF Card	USB/RS232/RS48	
5215	v		0							5/RJ45	
Notice	<ol> <li>For 3G Version, support 3G UMTS/HSDPA; S27xW 900/2100@UMTS 900/1800@GSM; S27xC 850/1900@UMTS 850/900/1800/1900@GSM; S27xT 850/2100@UMTS 850/900/1800/1900@GSM;</li> <li>T/H: temperature &amp; humidity input for environment monitoring, Range: -40~80 °C, 0~100% RH.</li> <li>The standard package: 1x RTU, 1x GSM Antenna, 1x AC/DC Adaptor, 1x Android APP, 1x PC Configuration Software, 1x USB cable, 1x User Manual, 1x Backup battery inside, Terminals for Connection.</li> <li>The standard package not includes: SIMCard. Temperature+Humidity sensor AM2301</li> </ol>										



### Warning Tips:

### Please Read the user manual firstly before any configurating and operating.

### 1. Brief Introduction

The GSM 3G M2M RTU(Remote Terminal Unit) S270/S271 inbuilt quad band GSM/GPRS module (or 3G UMTS/HSDPA) and ARM® Cortex<sup>™</sup> 32 Bit RISC Core. It is a multi Isolation I/O port remote terminal unit. It is special for remote control and remote data acquisition, Base Transceiver Stations monitoring, access control, ATM, generator monitoring, Pump station monitoring, weather satiation monitoring and other applications.

The S270/S271 GSM 3G M2M RTU is designed as a cost effective remote control system alert device. It monitors up to 2/4 digital inputs and 2/4 solid relay outputs and 2/4 AD inputs and power status, onsite temperature and humidity. All of the inputs and outputs are isolation. User-defined SMS is sent to pre-configure mobile phone numbers when a pre-defined alarm condition happens. These pre-configured mobile phone numbers can belong to technicians or engineers who are responsible in handling corresponding alarms. With the aid of this GSM 3G M2M RTU, the alarm condition brings attention to in-charge personnel immediately. Besides it allows those mobile phone users to trigger any relay output by using SMS. The output can be connected with alarm indication device, such as alarm, and others.

Moreover, the GSM 3G M2M RTU can be used as a smart PLC(Programmable Logical Controller) by the interlock function. And be used as a remote access control, the authorized users can open the gate or turn on the machine with a free charge call at specified time.

The GSM 3G M2M RTU supports Modbus TCP, TCP/UDP protocol over GPRS/3G network.

#### The GSM 3G M2M RTU can be used as:

- **A SMS Alarm Controller.** The IO activations or deactivations can be reported by SMS and optionally confirmed by phone calls. Each input can have its own message texts and the message can be programmed by users.
- **A Switch with SMS Remote Control**. SMS texts for switching particular terminals on/off or pulse output are configurable.
- A Timer-Switch which can be activated automatically. It can be setup when to performs preset logic events, e.g.: timer reports its status, timer switch on/off device or equipments automatically.
- An Access Control unit. Up to 10 authorized tel. numbers can be authorized for dial to access control and open the electricity door directly with free charge.
- **A PLC Automation Control system.** Upton 40 programmable logic events can be preset by users. E.g.: Each input alarm or recovery can link to one or more output actions, this is very useful when the temperature up to appointed value, need switch on the air-conditioning immediately, or when water overflow and need switch on the dryer, or when somebody broken into the door or windows need to start the CCTV and Siren.
- **A SMS reporter.** The GSM 3G M2M RTU can setup daily automatically report one or more times of its current status to users automatically.
- **A Pulse Counter.** The digital inputs can be used as the pulse counter, the user can setup both of interval value activated alarm and total value activated alarm.



- **A Data Logger.** The unit can save all of the events or acquisition data in internal memory storage, the historical data can export to CS format via USB port or upload to server by GPRS /3G network according to schedule, no distance limitation.
- A Wireless Data Acquisition to SCADA or HMI or Monitoring Center. The unit can acquisition variety data(E.g.: Pressure, Level, Current, Voltage, digital input status, pulse counter, digital relay output status, temperature value, humidity value and other) and upload to the SCADA(supervisory control and data acquisition) or HMI or Monitoring Center by SMS/GPRS/3G, no distance limitation.

### 1.1 Typically Applications



**Typically Application Diagram:** 



### Suitable Applications:

- 1. Security Alarm System applications;
- 3. Automatic monitoring system;
- 5. Pumping Stations;
- 7. Weather Stations remote control and data logging;
- 9. Oil and gas pipelines remote control and data logging;
- 11. Valve controls;
- 13. Energy saving, street lights control system;
- 15. Transformer stations;
- 17. Control room application;
- 19. GSM Access Control System, GSM Gate Opener, etc.

### System Schematic Diagram

- 2. Supervision and monitoring alarm systems
- 4. Vending Machines;
- 6. Buildings and Real Estate;
- 8. River Monitoring and Flood Control remote control;
- 10. Corrosion protection
- 12. Wellheads;
- 14. Tanks, levels, temperatures, water leakage applications;
- 16. Unmanned machine rooms;
- 18. PLC and Automation System, M2M;



Through GPRS or 3G to HMI, OMC, the TCP/IP protocol is KingPigeon Definition Protocol.

C: Through GPRS or 3G to SCADA, HMI, DCS, OPC Server, Under this condition, the RTU performs Modbus Slave. And the TCP/IP Protocol is Modbus TCP.

D: Using SMS to control the RTU, or receive SMS alarm alert, or through voice communication to open the door



or receive alarm calling.

#### 1.2 Mainly Features

- 1) ARM® Cortex<sup>™</sup>-M4 32 Bit RISC Core, RTOS system;
- 2) Quadband 850/900/1800/1900Mhz GSM GPRS Module inside, 3G UMTS/HSDPA Modules are optional.
- 3) Widely Rated voltage range, 9~36VDC, Inbuilt large capacity rechargeable backup battery;
- 4) Large internal memory to save 200 historical records, USB port for configuration and upgrade firmware;
- 5) 2/4 analog inputs, 12bits resolution, supports 0-5V, 0-20mA, 4-20mA output transducers;
- 6) 2/4 solid relay outputs, rated capacity is 5A/30VDC,5A/250VAC;
- 2/4 digital inputs, compatible to dry contact or wet contact inputs. Logic level: 0~0. 5V or short circuit treated as close, +3~30V or open circuits treated as open. One of the input can be used as counter, sampling frequency is 1Khz;
- 1 temperature & humidity sensor input for monitoring onsite environment, the sensor model is AM2301, Measures temperatures from -40-80°C,0.5°C accuracy, Relative Humidity from 0-99RH%, accuracy is 3%;
- 9) All of the I/O ports with electromagnetic isolation protection;
- 10) 2 IP data centers, supports Modbus TCP, TCP/IP protocol over GPRS/3G network;
- 11) Automatically resend the data while GPRS/3G communication interrupt or failure, GPRS/3G failure will alert by SMS text to users.
- 12) Supports remotely restart the RTU, and configure& operate it by SMS commands remotely;
- 13) Supports over voltage protection and phase-reversal protection, provide DC power sources for external transducers or sensors to save wiring cost.
- 14) 10 SMS Alert and auto dial numbers for receiving alarm message, can program to receive specified alarm message. The authorized numbers also can dial to open the door or turn on/off machine with a free charge call at the specified time.

Item	Reference Scope
DC Power supply	Standard adapter: DC 12V/1.5A Range 9-36VDC
Power consumption	Standby:12V/70mA; Working Max.: 12V/300mA
GSM/3G Frequency	850/900/1800/1900Mhz/3G (UMTS/HSDPA)
Trongmit norway	Class 4 (2W) at EGSM 900 and EGSM 850
Transmit power	Class 1 (1W) at GSM 1800 and GSM 1900
GPRS connectivity	GPRS multi-slot class 10
	GPRS data downlink transfer: max. 85.6 kbps
GPRS Data Transmission	GPRS data uplink transfer: max. 42.8 kbps
	Coding scheme: CS-1, CS-2, CS-3 and CS-4
TCP/IP stack	TCP,UDP
SIM interface	Supporting 3V SIM Card
External antenna	SMA Antenna interface, 50 Ohm
Alarm Phone Numbers	10 telephone numbers for SMS Alert and Dial while alarm.
Serial Interfaces	1 USB Port with ±15KV ESD Protection.
Protocols	SMS, GPRS UDP, TCP, Modbus TCP
	2/4 Digital inputs, dry contact or wet contact. Logic level: 0~0. 5V or short
Digital Inputs	circuit treated as close, +3~30V or open circuits treated as open. One of the
	input can be used as counter, sampling frequency is 1Khz;
Analog Inputs	2/4 analog inputs, 12bits resolution, supports 0-5V, 0-20mA, 4-20mA
Analog Inputs	output transducers;
Temp.&Hum Inputs	AM2301, Range: Temperature: $-40 \text{ C}$ to $+80 \text{ C}$ , Humidity: $0\sim100\%$ RH;
Relay Outputs	2/4 Solid Relay outputs, Rated Capacity: 5A/30VDC,5A/250VAC
Power Outputs	1 Port, for external device (Transducers or detectors or sensors).
Memory Capacity	Internal Memory inside, can save 200 historical events.
Backup Battery	3.7V 1200mAH, standby 8-16hours.
Temperature range	-10-+70 °C

### 1.3 Specifications

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I/O Isolation	Electromagnetic
Power input/Out	Over voltage protection and phase-reversal protection
Humidity range	Relative humidity 95% (condensation free)
Exterior dimension	168mm*113mm*26mm(external Maximum size)
Net Weight	1000 g

### 2.Safety Directions



### Safe Startup

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



#### Interference

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



Avoid Use at Gas Station

Do not use unit at a gas station. Power off RTU when it near fuels or chemicals.

Power it off Please follow



### near Blasting Places

relevant restrictive regulations. Avoid using the device in blasting places.



### Reasonable Use

Please install the product at suitable places as described in the product documentation. Avoid signal shielded by covering the mainframe.



#### **Use Qualified Maintenance Service**

Maintenance can be carried out only by qualified maintainer.

### 3. Physical Layout





### **Automation solution**



	LED Indicator Definition								
	Power Alarm Arm Run <b>III</b>								
Power	RTU status indicator, LED ON when switched RTU on. OFF when switched RTU off								
Alarm	Alarm Indicator, alarm will ON and flick quickly. Normally is OFF;								
Arm	Arm/Disarmed Indicator, Arm is ON, disarmed is OFF.								
Run	RTU running status indicator, ON or OFF stands for RTU halted, flicks slowly stands for RTU running.								
GSM/3G module indicator. Flicks quickly(less than 1second per time) stands for searching GSM/3G Network or no SIMCard inside or SIMCard connection is not good or cannot register to GSM/3G network successful. Flicks slowly (about 1sencond per time)stands for GSM/GPRS/3G stands for registered successful an GSM/3G Module standby.									
	Power Connector Definition								
	$ \bigcirc 10^{-36} \bigcirc 10^{-36} \bigcirc 10^{-4} \bigcirc$								
DC IN+	External DC Power input port, Connect to 1.5A@9~36V DC power, positive electrode.								
DC IN-	External DC Power Input port, contact to negative electrode								
DC Out+	Power source output port, positive electrode. Provides power from RTU to external transducers or sensors or detectors. The output voltage and current is the same as the power from DC IN inputs.								
DC Out -	Power source output port, Negative electrode.								
	DIP Switch Definition								
Mode     AIN Type       0     1     2     3       Set     V     V     V       Run mA     mA     mA									
For S270, 2 and 3 s	switches are useless.								
SET/RUN	For setting the RTU Mode is in Configuration Mode or Run mode. Switch it to upside is Set Mode, under this mode, the user can use PC Configurator via USB cable to configure the RTU Parameters or Read Parameter settings.								



	Switch it to Downside is Run Mode, under this mode, the RTU is in Running mode									
	The 1 <sup>st</sup> channel of analog input type switch. If not use this channel then no matter									
0/\//m /	Switch it to upside stands for the 1 <sup>st</sup> analog input should connect to 0~5V voltage									
0/v/mA	output transducer.									
	Switch it to Downside stands for the 1 <sup>st</sup> analog input should connect to 0~20mA or 4~20mA current output transducer									
	The 2 <sup>nd</sup> ~4 <sup>th</sup> channel of analog input type switch. If not use this channel then no									
	matter is upside or downside.									
1/V/mA~3/V/mA	voltage output transducer.									
	Switch it to Downside stands for the related analog input should connect to									
0~20mA or 4~20mA current output transducer.										
Analog Input Definition										
Analog inputs 12bi	0+0-1+1-2+2-3+3-1									
abovementioned DI	P Switch Definition to connect the correct transducers.									
For S270, 2+/2- an	d 3+/3- ports are useless.									
0+/0-	The 1st Channel Analog input. + stands for positive electrode, - stands for negative electrode.									
1+/1= ~ 3+/3=	The 2 <sup>nd</sup> ~4 <sup>th</sup> Channel Analog input. + stands for positive electrode, - stands for									
1171 ~ 3473	negative electrode.									
	Digital Input Definition									
	Digital Input									
	0 1 GND 2 3 GND									
Dry contact or wet	contact. Logic level: $0 \sim 0.5V$ or short circuit treated as close, $+3 \sim 30V$ or open circuits									
treated as open. On	e of the input can be used as counter, sampling frequency is 1Khz.									
<i>For 5270, 2/5 and C</i>	The 1st digital input positive electrode									
1~3	The $2^{nd} \sim 4^{th}$ digital input positive electrode									
GND	GND for digital inputs, negative electrode.									
	ATN Port Connector Definition									
ΔΤΝ	GSM/3G Antenna connector 500hm SMA female									
	USB Dort Corrector Definition									
USB	USB port, for configuration and upgrading firmware and exporting historical data;									
1	Femperature&Humidity Sensor Port Definitions									
	Т/Н									
T/H	Temperature & Humidity sensor AM2301 inputs. Measurement Range: Temperature: -40°C to +80°C, Humidity: 0~100%RH.									
I	Digital Solid Relay Output Connector Definition									
	3+ 3 5+ 5 4+ 1- 0+ 0-									
	Relay Output									
Solid Relay inside f	or outputs, Rated Capacity: 5A/30VDC,5A/250VAC.									
For S270, 2+/2- an	d /3+/3- ports are useless.									
0+/0-	The 1st Channel Solid Relay Output. + stands for positive electrode, - stands for negative electrode									
	The 2 <sup>nd</sup> ~ 4 <sup>th</sup> Channel Solid Relay Output. + stands for positive electrode - stands									
1+/1- ~ 3+/3-	for negative electrode									





Backside Switch&Button Definition						
SIMCard Holder	For SIMCard Installation, only supports 3V SIMCard, not supports 5V Simcard.					
Power Switch	For switch ON or OFF the RTU.					
Upgrade Firmware Switch	For upgrade firmware purpose only. Only when upgrade new firmware version will use it. Please keep it at Work Side all the time.					
Reserved Button	Reserved Button, Useless.					

### 4. Setting

The GSM 3G M2M RTU is user-friendly design. The user can setup it or export historic data by the PC Configurator through USB cable, and upgrade firmware by USB port. The GSM 3G M2M RTU also can be configured some basically parameters by SMS Commands or Android APP and IOS APP, please refer to

### Chapter 5.

Tips!

- 1) Please insert the SIMCard firstly, and install the GSM Antenna, please power on to check the LEDs status according to abovementioned LED Definitions, then switch off it before you program it by PC Configurator.
- 2) The PC Configurator in the CD, please click it to run it. Also can download from <u>www.GPRS-M2M.com</u> under S270/271 page directly.
- 3) The PC Configurator cannot run until it contacted to the GSM 3G M2M RTU successful.

Below is the steps to setup the parameters by PC Configurator, please follow it step by step.

### Start to Configure the RTU :

### Step1: Install the GSM 3G M2M RTU Configurator

The GSM 3G M2M RTU Configurator in the CD or download from <u>www.GPRS-M2M.com</u>, then installs it on the computer.

#### Step2: Connection

Please insert the SIMCard, and install the GSM/3G Antenna.

### Step3: Switch the DIP Switch to Setup Mode. (Before Power On the RTU)

Switch it to upside is Set Mode, under this mode, the user can use PC Configurator via USB cable to

```
Ver 2.1
```



### **Automation solution**

configure the RTU Parameters or Read Parameter settings. *Notice:* 

Please Switch it to Downside after you finished the configurations. Otherwise, the RTU cannot work properly. The Downside is Run Mode, under this mode, the RTU is in Running mode.



Step4: Connect the RTU to the PC by USB Cable. And connect the external DC Power to DC Power Ports, see below:



Step5: Power On the RTU by the Backup side Power Switch. See below:

#### Notice:

The Upgrade Firmware Switch must at Work Side. See below picture.



### Step6: Install USB Drvier

Please Contact the unit to the PC by USB Cable, and then install the USB Driver to the computer from the CD firstly. When successful, it can be found out at the device manager of the XP or Windows 7 or Win10, please see the below photo. Also, the driver for different OS can be downloaded from Silicon Laboratories, Inc. <u>http://www.silabs.com</u>, the model is CP210x.



#### Step7: Run the GSM 3G M2M RTU Configurator

Open the Root of PC Configurator, there are 3 files, the last 2 files must be in the same root, the

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m2m

WindowsInstaller3.1 is not necessary, it is a Service Pack file for windows OS. Click the <u>Setup.exe</u> to install the PC Configurator.

**Tips:** In some computer, it required download .net framework 4.0 while installation, then please click "Yes" to go to Microsoft website to download this service pack.



After installation successful, on the desktop please click to run it. Enter the password, default is **<u>1234</u>**. Then you can enter the configuration page as below:



#### Notice:

If display the below windows, then means the RTU connect to the PC failure. The reasons are below:



- 1) USB Driver installation failure;
- 2) USB Cable connection is disconnected;
- 3) The DIP Switch in RUN mode, not in SET mode;
- 4) The Upgrade Firmware Switch at Load side, not at Work side.
- 5) Power Switch switched off or DC Power Connection is disconnected.
- 6) Must reboot the RTU after change the dip switch or Load switch.

#### Step8: Configuration Parameters

After above-mentioned operations, it is possible to program the parameters of the RTU. The details please see below instructions.





💁 GSN 3G N2N RIU Configurate	pr ¥1.0	_ 🗆 🗵
🔄 Save Settings 🛛 🖷 Load Profile	🛥 Export Profile 🛛 📲 Default	
🖃 🔞 Basic Settings	Paraneter Settings 🗵	
Parameter Setti	Modify password	Synchronous machine time
Numbers Setting	Old password:	Time: 2015-03-31 22:25:00 💌
🖃 🕡 Output Settings	Confirm password: (4 Digits)	Read the RTU time
рошт	Modify password	Synchronize the RTU time
E Access Control		

Save Settings: Click it to save all of the PC Configurator parameters to the RTU;

Load Profile: Click it to load additional Profile to the PC Configurator;

**Export Profile:** Click it to save the present configuration parameters as a profile for next RTU configurating or backup the parameter settings.

**Tips:** The Load Profile and Export Profile is very useful while you need to program bulks of RTU with similar parameters. After programmed the first unit then you can export profile to save it, for the second RTU then you can load profile directly to save you time.

Default: Click it to recovery the parameters to factory defaults.

### Parameter Settings

**Modify Password:** this is for modifying the RTU's Password, default is 1234.

Synchronous machine time: this is to setup the RTU's time for daily report or other timers. After click

Synchronize the RTU time

, the RTU will be synchronous the same time as the PC.

Click it to read out the RTU's present page parameters to PC Configurator.

Save

Read

: Click it to download the present page parameters from PC Configurator to RTU.

🗟 GSH 3G H2H RTU Configurat	or ¥1.0			
👕 Save Settings 🛛 🐱 Load Profile	🐳 Export Profile 📲 Default			
Basic Settings	Parameter Settings 🗵		L	
🛛 🧑 Parameter Setti	Basic information			
Numbers Setting	Device ID (0~65535)	Model No.	Vers	ion 1.0.0.1
🖃	Device Description:			( 60 Characters )
The point	Add timestamp to alarm SMS	Arm Automatically when power on.		
	🔲 Auto Arm after disarm: 📃 🕟	linute(S) (0~9999, When set as 0, the	RTU will in armed mode i	immediately. )
Access Control	Times Description Child Contacts Catholics			
Access Control	Add the following additional inform	ation in the report SMS		
🖃 🧑 Input Settings	AIN0 Value	Arm Status	DIN0 Status	DO0 Status
DIN Trigger	AIN1 Value	☐ GSM/3G Signal Value	DIN1 Status	DO1 Status
DIM HIBBEI	AIN2 Value	External Power Status	DIN2 Status	DO2 Status
DIN Alarm	AIN3 Value	🔲 Device ID	🔲 DIN3 Status	DO3 Status
AIN Trigger	🔲 Temperature Value	Device Description		
ATN Alarm	🔲 Humidity Value			
	Alarm SMS Content Settings			
E Timer Settings	Add the following additional inform	ation in the alarm SMS		
Hour Timer	AIN0 Value	Arm Status	DIN0 Status	DO0 Status
Periodic Timer	AIN1 Value	GSM/3G Signal Value	DIN1 Status	DO1 Status
	AIN2 Value	External Power Status	DIN2 Status	DO2 Status
E Interlock Settings	AIN3 Value	Device ID	DIN3 Status	DO3 Status
Interlock	Temperature Value	Device Description		
Notwork Sattinga	□ Humidity Value			
Network Settings				
GPRS Settings			Read	Save
020				

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**Device ID:** non-necessary. This is mainly for monitoring center to identify the RTU, if the application no needs to identify the RTU, and then no need to fill any thing in it.

**Device Description:** This is the description of the RTU, e.g.: installation address, usage instructions and so on.

- Add Timestamp to Alarm SMS: Tick it stands for while alarm occurrence, the Alarm SMS will include the RTU'S current time information at the SMS Content.
- Arm automatically when Power On: Tick it stands for once the RTU powered up, the RTU will enter into Arm Mode automatically.
- Auto Arm after Disarmed: Fill the timeout to enter into Armed Mode automatically after disarmed operation. This is usefully for security protection applications.

#### Tips:

**Arm:** Under this mode, any alarm occurrence will send SMS and dial the authorized numbers immediately. And execute the programmed I/O outputs.

Disarmed: Under this mode, alarm occurrence will not send SMS & dial the authorized numbers.

Timer Reporting SMS Content Settings: Tick the related items to add its value/status to the Timer report SMS contents.

Alarm SMS Content Settings: Ticks the related items to add its value/status to the Alarm SMS Contents.

### Number Settings

This is to setup the Authorized User Telephone Numbers to receive the Alarm SMS or dial. Tick it stands for while the related event alarm occurrence will send SMS to this number.

GST 36 T2T RIU Configurator V2.1											
Save Settings 🕢 Load Profile 🚽 Export Profile 📲 Default											
🖃 🕜 Basic Setting 🎴	DOUT X	Nustbers Setti	ngs 🔀 🛛								
Paramete	Authorized U	ser Telephone	Number	Settings							
Numbers	(	Alarm No.)	Power On	Timer Report	Arm/Disarm SMS	Low Signal	Power Lost	Power Recovery	GPRS Failure	Relay Switch	
B Output Settin	User No.0 🗵	86135708102									
Паралини на	User No.1										
	User No.2										
E Contro	User No.3										
Access C	User No.4										
Turnut Satting	User No.5										
	User No.6										
DIN Trig	User No.7										
DIN Alar	User No.8										
AIN Trig	User No.9										
AIN Alar											
🗉 - 🧑 Timer Setting											1
Hour Tim								Kead		Save	J
	Notice:										
Periodic Periodic	1. Alarm No. c	an include or no	on-includ	e country c	ode, e.g.:in UK	i,can setup	0044 or +4	14 or without	country co	de,but can r	not be 44.
🖃 🕜 Interlock Set	3. Tick it stand	s for when the	event occ	urrence, wi	ll send SMS to	the relate	d telephone	e num <mark>be</mark> rs.			
Interloc =											
Network Setti											
COM3						De	vice Type:S2	271-RTV			

Alarm No.: Set the alarm receiver numbers, please includes the country code, e.g. in China is 0086, input 008613570810254, if cannot received the SMS or dial, then try to set as +8613570810254, but cannot be 8613570810254. Also, some GSM/3G Operators not required input country code, so please remove country code, e.g. in China is 0086, and China Mobile not required country code, so can set as 13570810254.



### **Automation solution**

**Power On:** Tick it stands for while the RTU powered up, will automatically send a "RTU Power On" SMS to this number.

**Timer Report:** Tick it stands for Timer report SMS will send to this number.

Arm/Disarm: Tick it stands for Arm or Disarm the RTU, will send SMS to this number.

Low Signal: Tick it stands for while GSM or 3G Network signal strength lower than 14 will send SMS to this number.

**Power Lost:** Tick it stands for while external DC Power loss will send SMS to this number.

Power Recovery: Tick it stands for while external DC Power recovery will send SMS to this number.

**GPRS Failure:** Tick it stands for while GPRS connection re-try 3 times and still failure will send SMS to this number.

Relay Switch: Tick it stands of while the Digital Solid Relay Output action will send SMS to this number.

### 👰 Digital Solid Relay Output (Dout) Settings

This page is to setup the Output parameters and definite the output usages. The outputs will be used in the Interlock Page for programmable logic events.

🗟 651 36 H2H RTU Configurator V2.1												
🖀 Save Settings 🛛 Load Profile 🚽 Export Profile 📲 Default												
😑 🍈 Basic Setting	Basic Setting DOUT 🗵											
Paramete		Output Type	channel Name (MAX.20)	Close Time (s)	Repeat Time	Interval Time(s)	ON/OFF SMS	Alarm Verif Time(s)	fy Open Description (MAX.30)	Close De (1	escription MAX.30)	
Numbers	Dout0	Open door	Gate 1	0	0	0		1	Gate 1 Opened	Gate 1 Close	ed	
B Output Settin	Dout1	Siren	✓ Alarm Siren	0	0	0		0				
DOUT	Dout2	Switch on/off	✓	0	0	0		0				
E 🕜 Access Contro												
Access C	Dout3	Switch on/off	~	0	0	0		0				
E O Input Setting									ſ	Read	Save	
DIN Trig	Notice: 1. If the	Close Time setu	up as 0, this channel w	ill output NC t	/pe. and the	e Interval Tim	e and Rep	oeat Times can i	not be edited.	]		
DIN Alar	2. If the then	Close Time setu open,and repeat	up as not 0, this chanr t this action according	el will output N to the Repeat	IC type and Times after	the relay wil the Interval	l close acc Time time	ording to the C	Close Time			
AIN Trig	3. Only 4. If the	the first Channel Output Type se	l (DO0) can be setup a etup as Switch ON/OFI	as Door Open f then this char	function, se nnel will be	e Access Con used as a sw	trol page. itch.					
AIN Alar	5. If the	Output Type se	tup as Siren,then this	channel will be	used as sir	en,and will b	e activated	d according to t	the settings			
E Timer Setting	6. Close	e time, Interval ti	me, Repeat Times and	d Alarm Verify	Time values	range from	0 to 9999.		a warifa tima			
Hour Tim	the R	TU will not send	SMS to alert the user	s.	ina the rela	y closing or c	pening ur	ne less than the	e verny ume,			
Periodic												
E () Interlock Set												
Therloc	<										]	
Natural Catt												
COM3					D	evice Type:S2	71-RTU					

Output Type: Default is NO output type. The user can choose the Output Type for the relay outputs, includes Open Door, Switch ON/OFF, Siren and Video-interlock.

- 1) Open Door: Only the first Channel(DO0) can be setup as Open Door, use it for electric lock. If setup as Open Door, then the authorized number calls in RTU, can open the electric Lock directly or output a pulse signal and disarmed the RTU directly. See Access Control page about the authorized number. (If close time set as 0, when call in, the relay will keep closed.)
- 2) Switch ON/OFF: For switch on/off device.
- **3)** Siren: this is for output pulse signal for siren sounds, If setup as Siren, then while the RTU alarm and ticked the Siren function in AIN or DIN trigger pages, then this channel will execute the setting parameters.

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Channel Name: to setup the Output Channel name, e.g.: Pump or Motor and so on, in order to identify it in SMS Contents.

**Close Time:** Stands for the relay close and last time.

Repeat Times: Stands for how many times does this relay should to repeat.

Interval Time: Stands for interval how many seconds then the relay repeat the action again.



**ON/OFF SMS:** Tick it stands for while the Recovery action, will send SMS to the authorized numbers; **Alarm Verify Time:** Stands for when the Relay Close or Open last time less than this value, will not send

SMS to the authorized numbers, this is to avoid sending too many useless SMS. **Open Description:** Stands for when the Relay Open, send what SMS to the authorized numbers; **Close Description:** Stands for when the Relay Close, send what SMS to the authorized numbers.

### Access Control Settings

This page is for setting which authorized number at what time can dial to the RTU and let the first channel (DO0) output a pulse output.

Only when the output types of the first channel (DO0) setup as **Open Door** can dial to control it. It is very useful for serviceman dial to open the electric lock door and disarmed at specified time of the Room. Also this function can be used as authorized number dial in the RTU to output a pulse output or always close then call again open the relay at specified time. In this condition, please setup the output type of DO0 as **Open Door**, and setup other parameters correctly, and remember to setup the **Auto Arm after Disarmed** time as 0 to keep the RTU in Armed Mode if required.

Tick the box ahead the User No. stands for enable the first Authorized number can dial in to let the first channel (DO0) output a pulse output.

GSE 36 H2E RTU Configurator V1.0											
🙄 Save Settings 🛛 Load Profile 🚽 Export Profile 📲 Default											
Basic Settings Paradeter Settings X Numbers Settings X Incoming control X											
Parameter Settin Access Control Tips:											
1.Only the first channel (DO0) Output type can be setup as Door Open. 2.When the ticked User No.x call to RTU,it will Disarm and output pulse signal to open the electric lock automatically											
E Output Settings		Start time		End time							
DOUT	User No.0	2016-03-07 18:24	~	2016-03-07 18:24	~	Always					
Access Control	🗌 User No.1	2016-03-07 18:24	<ul> <li>✓</li> </ul>	2016-03-07 18:24	~	🗌 Always					
Access Control	🗌 User No.2	2016-03-07 18:24	~ ~	2016-03-07 18:24	~	Always					
🖃 🚺 Input Settings	User No.3	2016-03-07 18:24	<b>~</b>	2016-03-07 18:24	~	Always					
DIN Trigger	User No.4	2016-03-07 18:24	<b>∼</b>	2016-03-07 18:24	~	Always					
DIN Alarm	🔲 User No.5	2016-03-07 18:24	~ ~	2016-03-07 18:24	~	Always					
AIN Trigger	🗌 User No.6	2016-03-07 18:24	~	2016-03-07 18:24	~	Always					
AIN Alarm	User No.7	2016-03-07 18:24	~ ~	2016-03-07 18:24	~	Always					
E Timer Settings	User No.8	2016-03-07 18:24	~	2016-03-07 18:24	~	Always					
Hour Timer	User No.9	2016-03-07 18:24	~	2016-03-07 18:24	~	Always					
Periodic Timer				Rea	a (	Save					
E Conterlock Settings	Notice: 1. Valid time set	as "Always" means the Us	er can call to ope	n the door without limitation	n. on only						
Interlock	2, valid with Star	t and end time means the	Oser can call to c	pen the door on the durati	on only.						

Start Time: Stands for from what time this authorized number can dial in to control it.End Time: Stands for till what time this authorized number cannot dial in to control it.Always: Stands for this authorized number can dial in to control it all the time.

### DIN Trigger Settings

This page is for setting the digital input alarm conditions and usages. The Digital input can be used as Armed/Disarmed Button, and also can be used as pulse counter, sampling frequency is 1Khz. and contact both of Wet-Contact and Dry Contact types digital detectors. If the input is wet contact then the logic level: 0~0. 5V or short circuit treated as close, +3~30V or open circuits treated as open.

Input T	уре	Channel			Parateter Settings $ imes$ Nutbers Settings $ imes$ Inclining control $ imes$ DIN trigger $ imes$						
DINO		Name (MAX. 20)	Current Status	Recovery Alarm	Alarm Verif Time(s)	y Siren	24hr	SMS Repeat Times	Interval Time(s)		
	~				0			0	0		
DIN1	~				0			0	0		
DIN2	~				0			0	0		
DIN3	~				0			0	0		
Pulse Counter	Initial V	/alue	Step Alarm \	/alue	Total Alar	rm Value					
							(MAX.	999999)			
📃 Send alarm SMS w	hen pulse	counter reset to	zero 📃 U	pload coun	ter value to se	erver whe	n pulse	counter reset to	zero		

- Siren: In armed mode, active then drive the 6, 24Hr: Any time, active will arise alarm.
- Z4Hr: Any time, active will arise alarm.
   Interval Time: Interval period to resend SMS.
- 8. SMS Repeat Times: send how many times of this SMS.
- 9. Alarm verify time, Interval time, SMS Repeat Times values range from 0 to 9999.

Input Type: The user can choose the input type for related channel. Includes: Counter, Arm/Disarm, NC,

NO, Change and Disabled.

- 1) Disabled: Not use this channel.
- 2) Arm/Disarm: Only the Second Channel (DIN1) can be used as Arm/Disarm Switch. For connecting a pulse output type switch to Arm or Disarmed the RTU.
- 3) NC: For connecting Normal close type detector, open will alarm.
- 4) NO: For connecting normal open type detector, close will alarm.
- 5) Change: For connecting normal open or normal close type detector, once the status changed, will be treated as alarm.(This function was reserved in this version)
- 6) **Counter**: Only the first channel (DIN0) can be used as counter. It can be used for pulse counter usage. Need to tick up the Pulse Counter box to setup initial value and interval alarm value and total alarm value. E.g.: contact a PIR sensor to count how many people pass through the ATM machine and so on. (When the counter reach to Total Alarm Value, will send SMS alarm, after that ,clear to Initial Value automatically.)

Channel Name: to setup the input channel name, e.g.: Pump or Motor and so on, in order to identify it in SMS Contents.

Current Status: Stands for input's current status.

**Recovery Alarm:** Tick it stands for when the digital input recovery, will send SMS to the authorized numbers.

- Alarm Verify Time: Stands for when the digital input Close or Open last time more than this value, will be treated as a true alarm, if less than this value, then will not alarm.
- Siren: Tick it stands for while this digital input triggering, the DO that output type was setup as Siren will execute its output parameters.
- **24Hr:** Tick it stands for no matter the RTU is in Arm or Disarmed mode, this digital input triggered will alarm.
- **Repeat Times:** Stands for how many times does the RTU should repeat to send SMS to authorized numbers.
- Interval Time: Stands for interval how many seconds then resend the alarm SMS again.

### 🧟 DIN/AIN Alarm Settings



This page is for setup while DIN/AIN alarm, send SMS & Dial to which authorized numbers. Tick it stands for enable to send SMS or dial the related authorized number, see below page is for DIN settings, the AIN Alarm Settings is the same:

🖃 🕡 Basic Settings	Paradeter Settings	× N	luÅbers S	$_{ m ettings}  imes$	In	ccming control $ imes$	🖄 IN trig	gger X	📌 DIN alarm	×
Parameter Set		c	DIN Alarm	Send SMS	5)	C DIN	Alarm Dial	Out )		
💽 Numbers Setti	DIN Channel	DINO	DIN1	DIN2	DIN3	DINO D	DIN1 DI	N2 DIN	3	
Dutnut Settings	User No.O									
	User No.1									
DOUT	User No.2									
🖃 🕡 Access Control	User No.3									
Access Contro	User No.4									
Input Settings	User No.5									
	User No.6									
DIN Trigger	User No.7									
DIN Alarm	User No.8									
AIN Trigger	User No.9									
AIN Alarm	Notice: Notice:									
E Timer Settings	1. Tick it stands 2. While dialing	for when the user f	the DIN a telephone	alarm, will number, e	send S each n	SMS or dial the relate umber will wait max 2	d user tele 20seconds	ephone nu , if not ans	mbers. swer will	
nour limer	dial the next u	ser numb	er.							
Periodic Time						Read		Save		

### AIN Trigger Settings

This page is to setup the analog input alarm conditions and analog input types.

SII 3G	II 36 II2N RTU Configurator V1.0												
Save Set	ttings 🛛 🗾 Load	Profile 🚽 Expo	rt Profile	Default									
Para	deter Settings	× Nustbers	Settings ×	Inciming co	ntrol 🗵 🤞	DIN trigger	× ≥din	alarm ×	🖄 N trigge	r 🗙			
	Input Type	Channel Name (MAX.20)	Naximum	Minimum	Current Value	Threshold High	Threshold Low	Recovery A Alarm	larm Verify Time(s)	Siren	24hr	SMS Repeat Times	In T:
AIN0	4~20mA 💌		0	0		0	0		0			0	0
AIN1	0~5V 🖌		0	0		0	0		0			0	0
AIN2	0~5V 🗸		0	0		0	0		0			0	0
AIN3	4~20mA ♥		0	0		0	0		0			0	0
Temp.	Enable 💌		80	-40		0	0		0			0	0
Hum.	Enable 💌		100	0		0	0		0			0	0
Notice 1. Ma 2. Me 3. Ala 4. Oth 5. Ala	Hum.       Enable       100       0 <td< td=""></td<>												

Input Type: Default is AIN0 and AIN3 is 4~20mA, AIN1 and AIN2 is 0~5V. The user can choose the input

type for related channel. Includes: Disable, 0~5V, 0~20mA, 4~20mA.

- 1) **Disabled:** Not use this channel.
- 2) 0~5V: For connecting transducers that output voltage 0~5V. Please remember to switch the related channel DIP switch to V side, see DIP Switch Definitions.
- **3) 0~20mA:** For connecting transducers that output current 0~20mA, Please remember to switch the related channel DIP switch to A side, see **DIP Switch Definitions**.
- 4~20mA: For connecting For connecting transducers that output current 0~20mA, Please remember to switch the related channel DIP switch to A side, see DIP Switch Definitions.
- 5) **Temperature and Humidity:** Default is Enable. Only accept AMS230x series sensor, the temperature maximum is 80, minimum is -40, and Humidity maximum is 100, minimum is 0, cannot change them.



Channel Name: to setup the input channel name, e.g.: Voltage or Current and so on, in order to identify it in SMS Contents.

Maximum: The transducer's maximum measure range. E.g.:100 Celsius degree. Usually it can be found out at the transducer's specification.

**Minimum:** The transducer's minimum measure range. E.g : -50 Celsius degree. Usually it can be found out at the transducer's specification.

Current Value: Stands for input's current value of the transducers.

Threshold High: The higher value need to alarm, like 50Celsius degree;

Threshold Low: The low value need to alarm, like -50Celsius degree;

**Recovery Alarm:** Tick it stands for when the analog input recovery, will send SMS to the authorized numbers.

Alarm Verify Time: Stands for when the analog input exceed the threshold value and last time more than this value, will be treated as a true alarm, if less than this value, then will not alarm.

Siren: Tick it stands for while this input triggering, the DO that output type was setup as Siren will execute the its output parameters.

**24Hr:** Tick it stands for no matter the RTU is in Arm or Disarmed mode, this input triggered will alarm.

**Repeat Times:** Stands for how many times does the RTU should repeat to send SMS to authorized numbers.

Interval Time: Stands for interval how many seconds then resend the alarm SMS again.

### 🎐 Timer Setting—Daily Timer

This page is for setup daily timer, it is useful for scheduling when to execute what action automatically. Total can program 10 scheduling events. Tick it stands for enable this timer event:

🗟 GSE 3G E2E RTU Configurat	tor ¥1.0								
📋 Save Settings 🛛 🐱 Load Profile	🚽 Export Pr	ofile 📑 Defaul	t						
Basic Settings	∕second ti	mer 🔀 📌 Hour	timer 🗙						
Parameter Setting	Clock Tim	ier							
Numbers Setting		Weekly	Hou	r	Minu	te	Action		
Output Settings	✓ 1	Sunday 🔽 🗸	06	~	00	~	Reboot	~	
·····	2	Monday 🗸	08	*	00	*	Auto SMS report	*	
DOOL	<b>V</b> 3	Everyday 🔽	00	~	00	~	Upload GPRS data	*	
Access Control	☑ 4	Everyday 🗸	18	~	00	~	Arm	~	
Access Control	✓ 5	Everyday 🗸	08	~	04	~	Disarm	~	
Input Settings	✓ 6	Thursday 🗸	04	~	03	~	GPRS online	~	
TTU Tui	7	Thursday 🗸	05	~	32	~	DO3 open	~	
DIN Irigger	8	<b>~</b>		~		*		*	
DIN Alarm	9	~		~		~		~	
AIN Trigger	10	~		~		~		~	
AIN Alarm							Read Sav	re 🛛	

Weekly+Hour+Minute: Stands for what day and at what time does the RTU should execute the action. Action: Stands for what action does the RTU should to execute at the specified time.

E.g.: as abovementioned,

Every Sunday 06:00, RTU automatically Reboot.

Every day 00:00, RTU upload data by GPRS to server.

Every day 18:00, RTU armed automatically.

Every Monday 08:00, RTU automatically send SMS reports to authorized numbers.

#### Tips:

**Action:** If the action is for DOUT (relay), then the relay working time, interval& repeat time is depend on the DOUT parameter. So, if want to use the DOUT to working periodically, then just setting in here.



### 🧟 Timer Setting—Periodical Timer

This page is for setup periodical timer, it is useful for scheduling when to execute what action automatically and repeat this action according to the interval time. Total can program 10 scheduling events. Tick it stands for enable this timer event.

🗍 Save Settings 🛛 🖉 Load Profile 🍯 Expor	t Profile 📲 🛛	efault									
∃		second tim	er 🔀								
Parameter Setting		Periodic Ti	mer Weekly		Но	ur	Mir	nute	Interval(s)	Act	ion
Numbers Setting		☑ 1	Sunday	~	07	~	01	~	50	Save Historical I	Data
Output Settings		2	Monday	~	06	~	09	~	0	Upload Data By	GPRS
DOUT		<b>I</b> 3	Tuesday	~	02	*	10	*	0	Pulse Counter R	eset to Zero
Access Control		☑ 4	Wednesday	~	04	*	03	*	0	Auto Report By	SMS
Access Control		☑ 5	Thursday	~	13	~	06	~	0	Reboot	
Access control		☑ 6	Friday	~	04	~	03	*	0	GPRS Online	
Input Settings		☑ 7	Saturday	~	19	~	05	~	0	Auto Report By	SMS
DIN Trigger		8 🗌	Sunday	~	00	*	00	*	0	Reboot	
DIN Alarm		9	Sunday	~	00	~	00	~	0	Reboot	
AIN Trigger		10	Sunday	~	00	~	00	~	0	Reboot	
AIN Alarm		Notice	91			i.				Read	Save
Timer Settings Hour Timer		1. Fro 2. Inte	m the Start I rval time rar	ime,e nge is	0~9999 :	conds ex Seconds.	cute the cl	noose ad	tion.		
Periodic Timer											
Interlock Settings											

Weekly+Hour+Minute: Stands for what day and at what time does the RTU should start to execute the action and interval how many seconds then repeat to execute the action.

**Interval:** Stands for interval how many seconds does the RTU should repeat to execute the action. If setup it as 0, then this event will not be repeated.

Action: Stands for what action does the RTU should to execute at the specified time.

E.g.: as abovementioned,

From the coming Sunday 07:01 start to save historical data, and executes this action every 50 seconds.

### Interlock Settings

This page is for setup if what happen, then what action does the RTU should execute, it is a programmable logic events. Total can program up to 32 logic events for automatically control purposes.



Basic Sett:	DOUT A Numbers Settings A 2 In	teriock
Parane	Event: Arm	
Numbes	Action : Siren	Add Delete
Output Set		
DOIT	Event	Action
2001	DIN0 trigger	All DO close
Access Con	DIN3 trigger	DO3 open
	AIN2 trigger	DO2 close
Acces	AIN2 recovery	DO2 open
() Input Sett:	Alarm of Pulse interval	DO0 close
	Temperature alarm	Siren
DIN 13	DIN2 recovery	Reboot
DIN A:	DIN3 recovery	Arm
	Arm	GPRS online
AIN To	Humidity alarm	All DO open
AIN A.	DIN2 trigger	Disarm
1005 No.5	Arm	Siren
Timer Sett:	1	
Hour -		
34		
Perio(		
5		

Event: Stands for if this occurrence.

Action: Stands for then what action does the RTU should execute.

### GPRS &Server Parameter Settings

This Page is for setup the GPRS online parameters, GPRS Transport data protocol and Server information. Only when you have Server or need to use GPRS to transmit data then need to setup these parameters. The GPRS Protocol details please refer to <S27x GSM 3G M2M RTU GPRS/3G Protocol Instruction>.

🗟 GSE 36 E2E RTU Configurator V1.0		
🔄 Save Settings 🛛 🗐 Load Profile 🍯 Export H	frofile 📲 Default	
Basic Settings     Parameter Setting     Numbers Setting     Output Settings     DOUT     Access Control		
Access Control Input Settings DIN Trigger DIN Alarm AIN Trigger	Secondary IP       Protocol       Port       (0~65535)         Enable GPRS Connection         Heartbeat Interval       s (0~600)         O Deifinition Protocol over GPRS       Modbus TCP Protocol over GPRS         GPRS Parameter SettingsThese Parameters Provided by GSM/3G Operator	
AIN Alarm Timer Settings Hour Timer Periodic Timer Interlock Settings Metwork Settings GPRS Settings Historical Record	APN:       Password:         Read       Save         Notice:       1. If choose Definition Protocel over GPRS, then         1)GPRS will automatically online while power on,if failure then will try 3 times. When any event occurrence or received Online request by SMS, GPRS will online.         2)GPRS will send the heartbeat interval to keep online.         2)If choose Modbus TCP Protocol over GPRS, then if GPRS offline, must send SMS to request GPRS or 3. GPRS Parameters please ask you SIMCard Provider or GSM/3G Operator.         4. The IP Server and DNS can be choosed only one type. if choosed IP Server, then the RTU will try to connect the Primary Server firstly, if failure then try to connect the Secondary Serer, total 3cycles.	~

Mode: To choose which type of Server will be used, includes IP Address Server and DNS Server. If

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setup Use DNS as Server, then the RTU only supports this DNS as Server, if setup IP Connection type, then stands for using IP Address as server, and the Secondary IP Server also can be used.

**Primary IP/Domain Name:** Stands for primary Server IP address or DNS. **Protocol:** Stands for the GPRS transmission using TCP or UDP protocol;

Port: Stands for the server's port.

Secondary IP: Stands for secondary Server IP address;

Enable GPRS Connection: Tick it stands for enable GPRS communication.

**Definition Protocol over GPRS:** Tick it stands for the protocol via GPRS is KingPigeon RTU protocol. **Modbus TCP Protocol over GPRS:** Tick it stands for the protocol via GPRS is Modbus TCP protocol. **Heartbeat Interval:** GPRS keep online heartbeat interval time.

**APN:** GPRS Access Point Name, provided by GSM/3G Operator.

User Name: GPRS User Name, provided by GSM/3G Operator.

**Password:** GPRS Password, provided by GSM/3G Operator.

#### Tips:

- 1) If setup as IP Connection mode, the RTU will upload data to the primary IP firstly, if failure will try to transmit data to the secondary IP server. If the secondary IP server still failure, will try to connect the Primary IP, total 3 times.
- 2) The RTU only supports one of the IP Address and DNS as Server. Cannot use both of them at the same time.

### 🌻 Historical Record

This page is for manage and read out the historical record from the RTU, and can save as CS format for other purpose usage.

For historical record, the RTU total can save 200 records. Once it full, will automatically remove the earlier 100 records for new records.

The records only include alarm events, not includes power loss events, timer events.

des∎ :	G M2M RTU Configurator V1.0	
📳 Save	Settings 🐳 Load Profile 🐳 Export Profile 📑 Default	
]{ <b>()</b> }	🝰 PRS Settings 🔀 Histerical Record 🗵	
	0 Empty RTU Records O Read All O Read record from 1 to 1 Clear Read	Save as CSV
]{		

### Start to Work:

**Step1:** In order to save you time to program it, please click Export Profile to save these configurations as a profile.

Step2: Exit the Configuration, and Switch OFF the RTU.

- **Step3:** This Step is for you first time to use this RTU, or you're not sure if the configurations are save successful. Run the PC Configurator, and Switch ON the RTU again, enter password and try to read out the previous settings. If can read out all of the settings, then stands for you previous settings are successful.
- **Step4:** Switch OFF the RTU, and remove the USB Cable, then please remember switch the 1<sup>st</sup> DIP Switch to RUN mode. See below picture.



**Step5:** Switch ON the RTU, the RTU will make a long beep "DI~" for 10 seconds. If hasn't heard the Di sounds then means somewhere with mistake settings. Please refer to above-mentioned steps to check it carefully. And reference to the **LED Definitions** to check if it enters running.



### **Automation solution**

### 5. SMS commands & APP (Cannot Setting the Timer&Interlock).

The user can send SMS commands to setup or operate the GSM 3G M2M RTU, also can use the APP to control it easier. The APP is under SMS communication, but their makes the program and operation easier than edit SMS every time.

The Android APP download link:

https://play.google.com/store/apps/details?id=com.jinge.gsmseniorhelper\_s275 The IOS APP download link: https://itunes.apple.com/us/app/gsm-3g-m2m-rtu/id1095288504?l=zh&ls=1&mt=8

Or use Android smart phone/Iphone to scan the QR Bar code:



Or search it at Google Play/APP Store by name: S27x GSM 3G M2M RTU Controller





The SMS commands will be used for remote control the RTU are below:

#### 1) Commands error return SMS

Event			Return SMS C	ontent
Any incorrect Command		SMS Format E	rror, Please check Cap	s Lock in Command!
2) External DC Status				
Event			Return SMS C	ontent
External DC goes off		External DC Po	ower Goes OFF	
External DC Power Goes ON		External DC Po	ower Goes ON	
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### 3) Modify Password, 4digits, default is 1234

	SMS Command	Return SMS Content					
Old Password+P-	+New Password	This is the New Password, please remember it carefully.					
4) Arm/Disarm SMS Command							
	SMS Command	Return SMS Content					
Arm	password+AA	Armed					
Disarm	password+BB	Disarmed					

5) Set RTU time, format is 2015-05-22 15:20:30W01, the W01 stands for Monday, W07 stands for Sunday.

SMS Command	Return SMS Content
password+Dxxxx-xx-xxTxx:xxWxx	xxxx(Y)XX(M)XX(D)xx(H)X(M)xx(W)

### 6) Inquiry Current Status SMS Command

SMS Command	Return SMS Content
password+EE	Armed/Disarmed
	Model:
	Version:
	IMEI:
	GSM Signal Value:
	External DC Power Goes OFF/ON

### 7) **Setup 10 User number**(Alarm Number&Access Control Number), max 21digits. (Return 0~4 or 5~9 separately while setting.)

	SMS Command	Return SMS Content
Setup	password+A+series number+T+tel number	Tel1:
		Tel2:
	Notice:	Tel3: 13570810254
	Series number = 0~9	Tel4:
		Tel5:
Inquiry	password+A	Return all numbers
Delete	password+A+series number	Return 0~4 or 5~9 numbers.

#### 8) **Authority User Number to access control**: authorized number can dial to disarm and open the door.

SMS Command		Return SMS Content
Setup	Specified access control time:	Tel1:
	password $+$ B $+$ series number+S+start time+E+endtime	Tel2:
	Always can access control:	Tel3: 13570810254
	password + B + series number+P	Tel4:
	Notice:	Tel5:
	Time format is 201505231230, stands for year, month, date, hour, minute.	
Inquiry	password+B	Return all authorized user numbers
Delete	password+B+series number	Return all authorized user numbers

#### 9) Setup Daily Report time

	SMS Command	Return SMS Content
Setup	password+DR+series number+T+time	Daily SMS Report at: xx:xx
	Notice:	
	Series number =0~9, e.g.: 1234DR1T12:30	
Inquiry	password+DR	
Delete	password+DRDEL	

10) Setup DIN Name(For recovery alert then the SMS will plus "Recovery")



#### **SMS Command Return SMS Content** Set DIN Name password+DIN+channel number+T+ DIN Name DINx: Notice: channel number= 0~3, DIN Name max 40 characters; E.g.: 1234DIN0TDoor alarm Inquiry DIN Name password+DIN+series number<nnnn> Notice: nnnn stands for channel number Delete DIN Name password+DIN+series number+DEL Inquiry Status password+DINE DIN1:Open/Close DIN2: Open/Close \_\_\_\_

### 11) **Setup AIN Name**(For recovery alert then the SMS will plus "Recovery")

SMS Command		Return SMS Content
Set AIN Name	password+AIN+channel number+T+AIN Name	AINx:xxxx
	Notice: channel number= 0~3, AIN Name max 40 characters;	
	E.g.: 1234AIN0TDoor alarm	
Inquiry AIN Name	password+AIN+ channel number <nnnn></nnnn>	
Delete AIN Name	password+AIN+ channel number+DEL	
Set Threshold	password+AINR+channel number+Lxxx+Hxxx	AINx: Low:xxx,High:xxx.
Inquiry Threshold	password+AINR+ channel number <nnnn></nnnn>	AINx: Low:xxx, High:xxx.
		AINy: Low:xxx, High:xxx.
Delete Threshold	password+AINR+ channel number+DEL	
Set AIN measurement	password+AINM+ channel number+Lxxx+Hxxx	AINx: Min:xxx,Max:xxx
range		
Inquiry measurement	password+AINM+ channel number <nnnn></nnnn>	AINx: Min:xxx, Max:xxx.
range		AINy: Min:xxx, Max:xxx.
Delete measurement	password+AINM+channel number+DEL	
range		
Inquiry AIN Current	password+AINE+channel number <nnnn></nnnn>	AINx: xxxx ,+【Normal/Higher/Lower】
Value		
Inquiry All AIN Current	password+AINE	AIN0: xxxx ,+【Normal/Higher/Lower】
Value		AIN1: xxxx ,+【Normal/Higher/Lower】

### 12)SMS Control Digital Output

	SMS Command	Return SMS Content
Set DO Name	password+DO+channel number+T	DOx:xxxx
Inquiry DO Name	password+DO+ channel number <nnnn></nnnn>	
Delete DO Name	password+DO+ channel number+DEL	
Switch ON(Close)	password+DOC+ channel number <nnnn></nnnn>	DOx: ON
	[The relay working time is always closed]	DOy:ON
Switch OFF(Open)	password+DOO+ channel number <nnnn></nnnn>	DOx: OFF
		DOy:OFF
Switch ON(Close)	password+DOLC+ channel number <nnnn></nnnn>	DO1: ON
numbers of relay	[The relay working time is depend on the setting in DOUT	DO2: ON
	parameter]	DO3: ON
		DO4: ON
Inquiry DO Current	password+DOE+ channel number <nnnn></nnnn>	DOx: ON/OFF



### **Automation solution**

Status		DOy:ON/OFF
Inquiry all DO Current	password+DOE	DO1: ON/OFF
Status		DO2:ON/OFF
Set Pulse Output time	password+DOT+xxx (3 digital, unit is seconds)	Pulse Output Time:xxxS
Inquiry pulse output	password+DOT	Pulse Output Time:xxxS
time		
Pulse Ouput	password+DOP+channel number <nnnn></nnnn>	No SMS Return

### 13)SMS Command for Current Counter

Remark	SMS Command	Return SMS Content
Clear the counter to start value	password+DIN0CLR	Clear OK
Inquiry current counter	password+PR	Current Counter:xxxxxx

#### 14)Delete all the History Data

SMS Command	Return SMS Content
password+ HISDEL	Delete Successfully

### 15)Set Server Parameter(Can not setup DNS by SMS)

SMS Command		Return SMS Content
Set Server IP	password+IP+ IPaddress+P+Com port	Server:
		Port:
Inquiry	password+IP	
Delete	password+IPDEL	

#### 16)Set GPRS APN/USER NAME/PASSWORD

SMS Command		Return SMS Content
Set	password+AP+apn+#+username+#+userpassword	APN:
Inquiry	password+AP	User Name:
Delete	password+APDEL	Password:

#### 17) Wakeup GPRS Online

SMS Command	Return SMS Content	
password+GPRSonline	No SMS Return	

18) Remote upload historic data via GPRS: Send this command, the unit will upload historic data via GPRS.

SMS Command	Return SMS Content
password+HIS	Automatically upload all historic data to server via GPRS.

### 6. Communication Protocol

The GSM 3G M2M RTU supports TCP/IP communication via GPRS/3G. It is very useful for users to create remotely server. It inbuilt Modbus TCP protocol and definition protocol(KingPigeon RTU Protocol), the user can connect the GSM 3G M2M RTU to the present HMI, OPC Server, SCADA directly.

For GPRS Communication protocol, please refer to <S27x GSM 3G M2M RTU GPRS/3G Protocol Instruction>.

### 7. Registers Assignment Table

The registers assignment of the RTU and its IO will definite in the < S27X GSM 3G M2M RTU Register

Ver 2.1



Assignment Table>, please refer to it.

### 8. Upgrade Firmware

The GSM 3G M2M RTU supports upgrade firmware via USB port directly. If we upgraded the firmware functions of the RTU, we will inform you to upgrade the firmware if you required. If there any new requirements of the present functions caused it should update the firmware, the user can upgrade them directly by USB port. If you required upgrade, please contact us to modify the firmware according to you requirements, and we will provide the upgraded firmware to you to upgrade them.

### 9. Warranty

- 1) The RTU was warranted to be free of defects in material and workmanship for one year from the date of purchase.
- 2) This warranty does not extend to any defect, malfunction or failure caused by abuse or misuse by the Operating Instructions.

### 10. Wiring Connection Diagram:

### 1.Analog Transducer:



### 2.T/H input Sensor (Temperature&Humidity for Environment):



### **Automation solution**



### AM2301 PIN Difinition



Tomp & Hum	VDD	Connect to AM2301 Sensor VDD wire. Red wire.
Input	Data	AM2301 Data wire. Yellow wire.
	GND	AM2301 GND, black wire.

