Send SMS Text Message to your Mobile Phone when alarm occurrence!

Remote Monitoring Your Outdoor Assets In Anywhere and Anytime!

GSM SMS GPRS Power Facility Alarm
GSM GPRS Outdoor Alarm Controller

KING PIGEON

User Manual

S250

Ver 1.10

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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 GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller) S250.

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.

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SMS Command List

SMS COMMAND	Functions & Actions
AA	To arm the system, in this case, any detector triggered will alarm.
BB	To disarm the system, in this case, any detector triggered will not alarm.
C1#ttt# or C2#ttt#	To switch ON Relay 1 or 2 to close ttt minutes,
D1 or D2	To switch OFF the Relay 1 or 2 output relay
EE	Inquiry the GSM GPRS Power Facility Alarm Status

The commands should plus Password, the format is Password+SMS Command. i.e.: if the password is 1234, then you can send 1234AA to arm, 1234BB to disarm. The password can be modified by PC Configurator or by SMS Command.

1. Brief introduction

The GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 is an high-technology and specialized wireless anti-theft controller special for electricity power transmission devices and outdoor security protection applications.

The GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 in-built industry microprocessor inside, with waterproof and weatherproof enclosure, supports solar panel powered up. It provides 2 digital relay outputs (240VAC/10A), 8 digital inputs(Dry contact, Lightning protection, Electrostatic protection, Over current protection.), 3-Phase AC Power Opto-isolated inputs to detect the Electricity A , B, C 3 phase status. It allows you to monitor and control an alarm or remote stations or equipments or machines by SMS(Short Message Service) Or GPRS. It is very suitable for outdoor security protection and Transformer anti-theft requirements, Power Transmission Equipments Burglarproof applications as well as power cable anti-theft and so on. When any cable was cut or loss, or and detector activated, the panel will alert the owner immediately by SMS, or call, as well as to Web Based Monitoring Center. also, it will start the siren immediately. The system with intelligent designed, it can distinguish the normally power off and cut cable power off. This is very useful for power device transmission devices.

The GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 can work with the Web-Based Alarm Monitoring center, in order to monitoring lots of units in the countryside by Wireless GPRS Network. The Web-Based monitoring center supports Google Map to display the alarm occurrence place directly. Moreover, the user can inquiry the historical record from website at anywhere and anytime. Moreover, the clients can develop its special monitoring center according to the communication protocol directly over wireless GPRS network.

The GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 supports solar panel, so when the AC Power goes off, it still can keep working well! And when the battery voltage is lower than normal, it will alert the users.

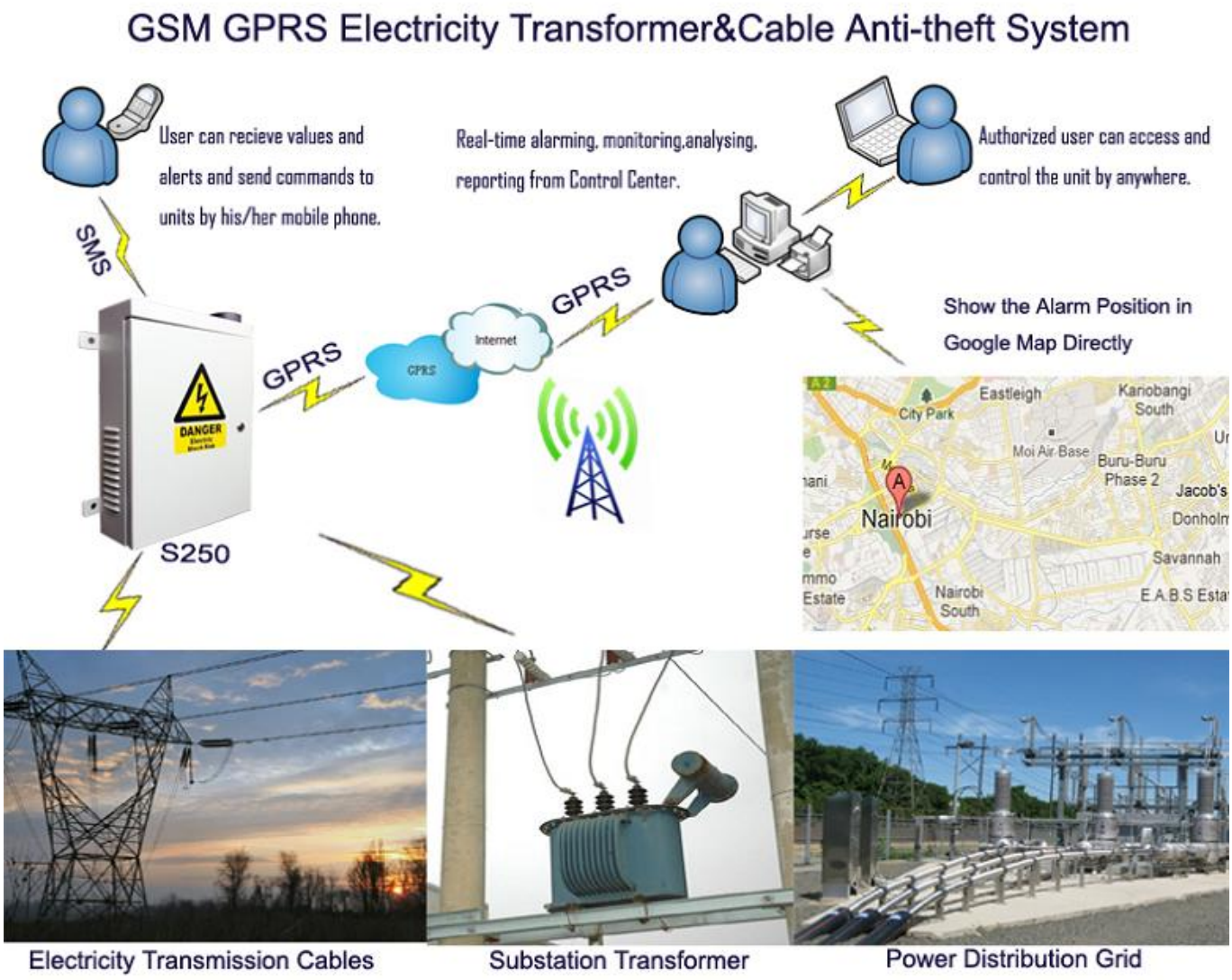
Meanwhile, the GSM GPRS Power Facility Alarm adopt Time-Stamped technology, it will inform the administrator by SMS who is operated it or what occurrence. This is very useful for operation management.

The GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 can be used as:

- **A Wireless Switch with SMS Remote Control**. SMS texts for switching particular terminals on/off are configurable.
- **An automation system.** Each input can link to output actions, this is very useful when the temperature upto 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 field fence or cut cables need to start the loudly Siren or equipments.

- **A GSM GPRS Alarm unit.** The digital Inputs activations or any of the 3-Phase AC Power cut will alert by SMS or GPRS. Each input can have its own message texts and the message can be programmed by users.
- **A SMS reporter.** The digital Inputs activations or deactivations can be reported by SMS. Each input can have its own message texts and the message can be programmed by users.
- **A GSM GPRS Remote Termials (GSM GPRS Outdoor Alarm Controller).** It can work with the supervisioning center, in the supervisioning center, the own can remote monitoring and control the remotely terminals by GSM GPRS Network.This is very useful to BTS environment monitoring, power transmission system monitoring and other applications.

What Applications does the GSM GPRS Power Facility Alarm (GSM GPRS Outdoor Alarm Controller)S250 suitable for?



1. Electricity transformer and Cable anti-theft application;
2. Electrical Power Unit(EPU) Monitoring and Anti-theft applications;
3. Power Plant, transmission Substation, power towers;

4. Distribution Grid, transmission grid, power substation;
5. The switch tower and the main transformer;
6. Outdoor Security Alarm System applications;
7. Supervision and monitoring alarm systems;
8. Outdoor substations, e.g. Mobile tower, field substations and so on;
9. Outdoor Pumping Stations;
10. Transformer stations;
11.Control room application, etc. .

2.Safety Directions

Safe Startup
Do not use GSM GPRS Power Facility Alarm when using GSM equipment is prohibited or might bring disturbance or danger.

Interference
All wireless equipment might interfere network signals of GSM GPRS Power Facility Alarm and influence its performance.

Avoid Use at Gas Station
Do not use GSM GPRS Power Facility Alarm at a gas station. Power off GSM GPRS Power Facility Alarm when it near fuels or chemicals.

Power it off near Blasting Places
Please follow 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.

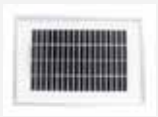
Use Qualified Maintenance Service
Maintenance can be carried out only by qualified maintainer.

3. Standard Packing List

Control Panle	USB cable	CD(User Manual and PC Configurator)


Waterproof Connector

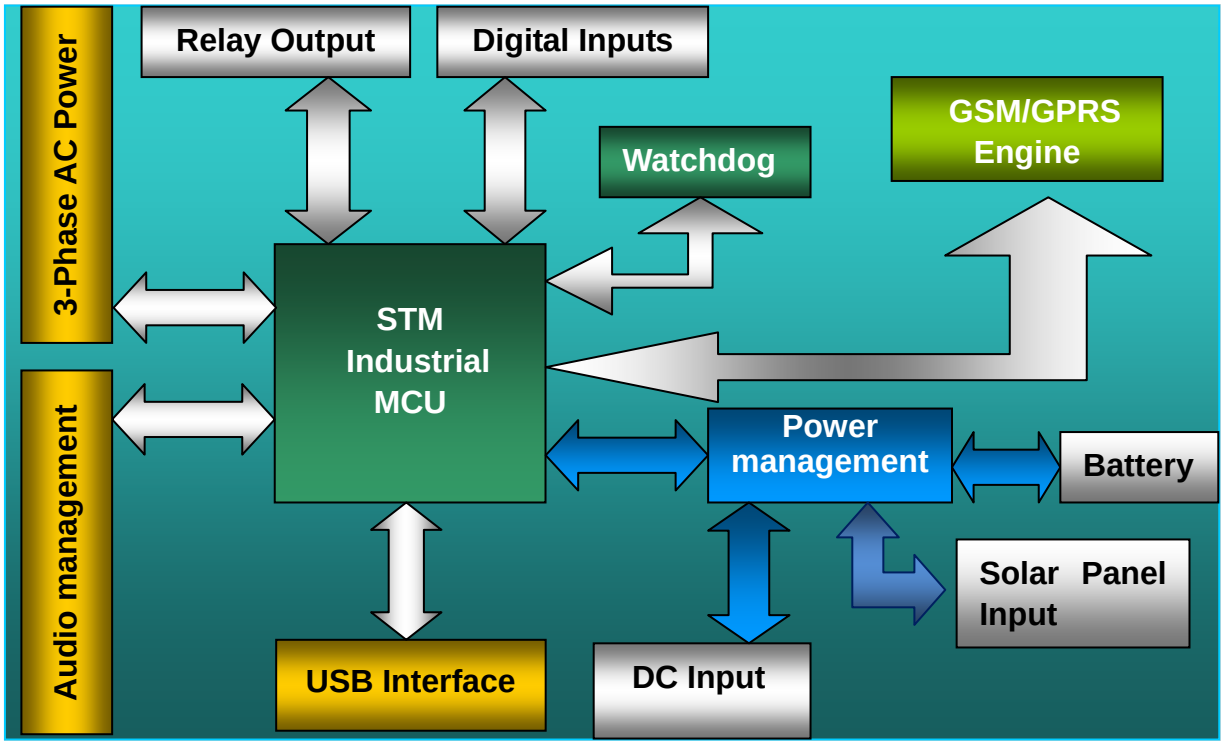

Lock Keys


12V 18W Solar Panel(Optional)

Optional Accessories：

12V18W Solar Panel, Wired Temperature Detector, Oil Level Detector, Shock Detector, Photoelectric Beam Detectors and Fixed wire anti-movement detections.

4. Features of GSM GPRS Power Facility Alarm:



1) Inbuilt Quad-band GSM GPRS Module, GSM/GPRS Data Transmission, no distance limitation;
2) Lighting protection design;
3) Weatherproof design, with temperature compensation function for high/low temperature, waterproof for outdoor applications;
4) Programmable by USB Port or SMS Commands;
5) Supports Arm or Disarm by SMS or Web Based Monitoring Center;
6) Power on by 220VAC from any phase of A/B/C;
7) Supports Solar Panel powered on as well as includes internal rechargeable battery that can last 24hours, when battery with low voltage will alert user by SMS;
8) Supports 8 digital inputs(NC/NO) for digital inputs, also supports EOL connection to prevent cut detector wires and detector disconnection;
9) Supports 2 output relays(240V/10A), the output relay is programmable to different alarm source;
10) Can send to 6 SMS alarm numbers, distinguish which phase and with input occurrence alarm;

11) Supports two way voice communication;

12) Supports external siren, the siren working time is programmable from 0-10minutes;

13) Supports operation logs to distinguish who operated it at what time;

14) Supports self-checking status and report to monitoring center and users from 0-240Hours;

15) Supports time stamp for events;

16) Supports GSM interface and GSM Jammer alarm function;

17) Supports IP address and Dynamic Domain name;

5. Settings

The GSM GPRS Power Facility Alarm is user-friendly design. The user can setup it by the PC Configurator through USB cable. The GSM GPRS Power Facility Alarm also can be configured parameters by SMS Commands remotely.

Tips!

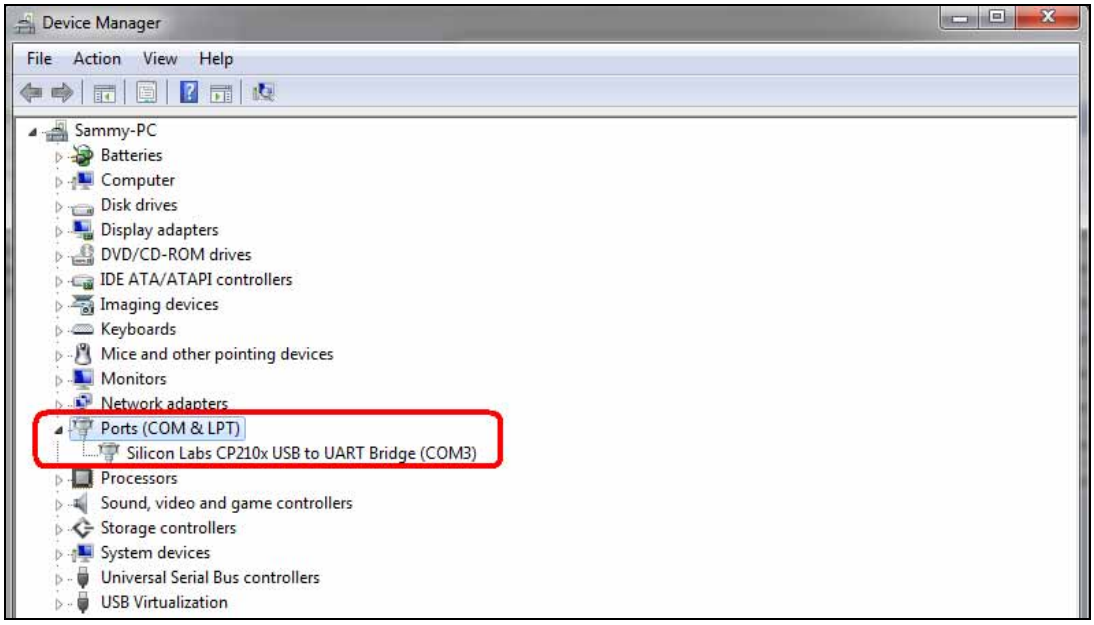
1) *In order to forbidden the intruders switch off the unit, we equipped the power switch inside, it is nearby the SIMCard socket, please pay attention to it, and don't tell others of this. Turn it towards inside is off, turn it towards outside is on. And when setup the unit, please put the Setting switch to SET position, after setup, switch it to WORK Position.*
2) *Please insert the SIMCard firstly, and please power on to check the LEDs can work or not, then switch off it before you programming it by PC Configurator.*
3) *The PC Configurator in the CD, please click it to run it. The PC configurator can be used for local configuration the GSM GPRS Power Facility Alarm by USB.*
4) *The default password is 1234, you can modify it by enter the new password in the PC Configurator.*
5) *The unit not supports PIN Code, please disable the PIN Code from your GSM Operator.*
6) *Two way communication: While the authorized users incoming call, the GSM GPRS Power Facility Alarm will automatically answer the call, then the two-way voice communication will be created. If you want to test the two way voice communication, please make sure the other phone is away from the GSM GPRS Power Facility Alarm unit at least 500meters. Otherwise, the near-cross will make lots of noise interference.*
7) *When the present alarming hasn't finished, the GSM GPRS Power Facility Alarm will not handle the next alarm event till the present alarming finished. If the present alarming had finished, and the next alarm event still in alarming condition, the GSM GPRS Power Facility Alarm will handle it.*

5.1 Configuration by PC Configurator via USB Port

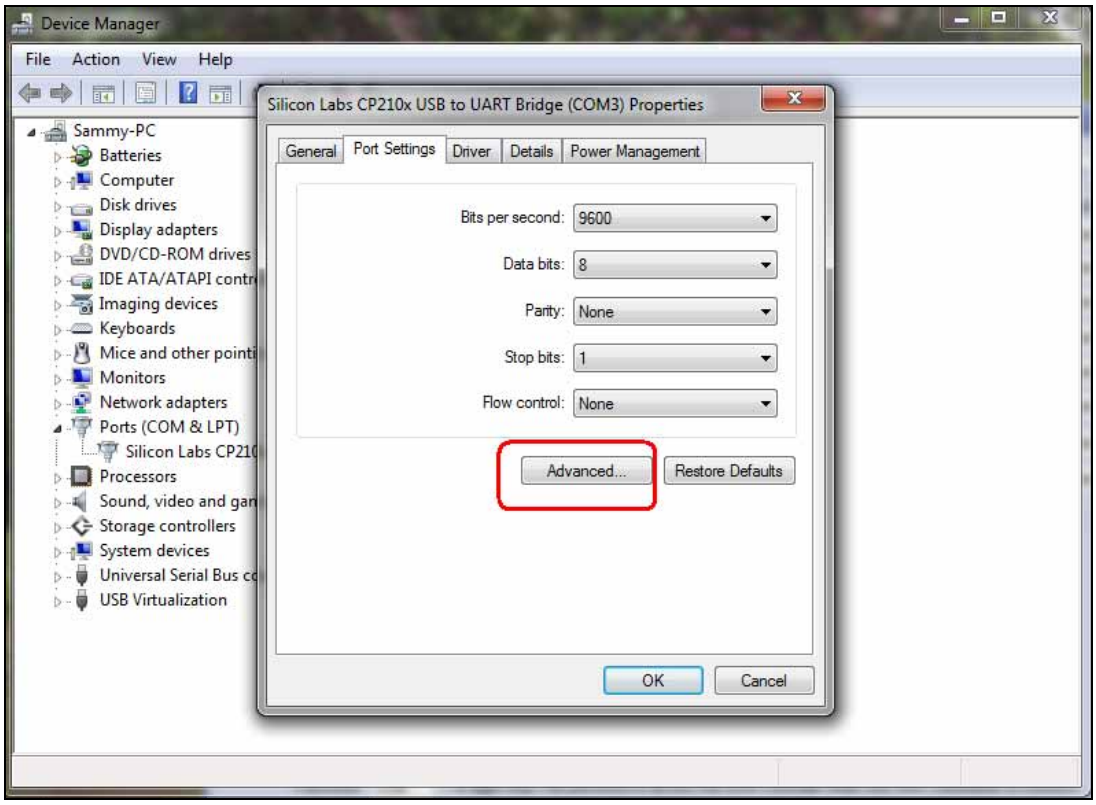
5.1.1 Install the Driver and PC Configurator

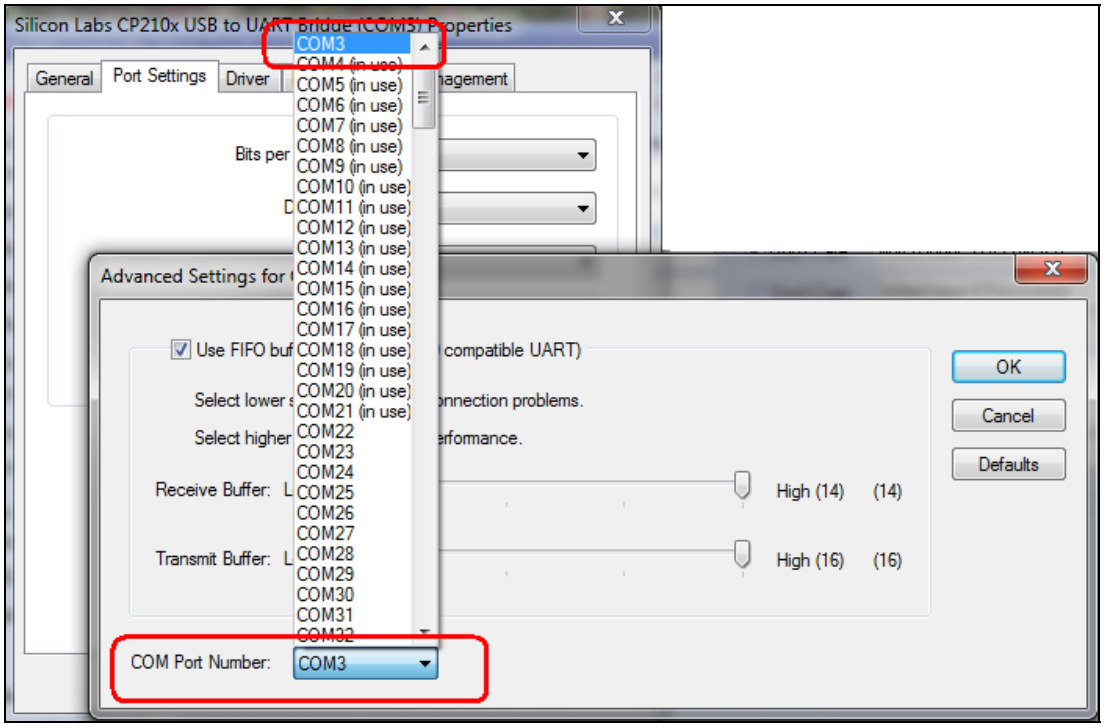
Please following the below steps one by one to install them, otherwise you cannot install them successfully.

Step1: 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, please see the below photo. And remember the COM port. Also, the driver for different OS can be downloaded from Silicon Laboratories, Inc. http://www.silabs.com , the model is CP210x.



If the Com port is not Com1~Com5, then please right click the Device, then enter the Properties to change it, see below photos, after you changed it, and please restart the computer.





Step2: Please insert the SIMCard into the GSM GPRS Power Facility Alarm carefully;

Step3: Please running the PC Configurator, needn't installed it;

Step4: Please connect the GSM GPRS Power Facility Alarm to the computer through USB cable, but please don't switch on the GSM GPRS Power Facility Alarm, otherwise, the setup will be failure;

Step5: Please setup the GSM GPRS Power Facility Alarm parameters, the details please see below **Function Table 1**;

Step6: After you finished the setup, then press **"Save Settings"** button then switch on the GSM GPRS Power Facility Alarm, after 2Seconds, it will alert the Setup successful. If it hasn't prompted the setup successful, it means the setup is failure, please check the Com port and USB connection. You can change the Com Port to try it one by one, if the Communication LED sign is green after you press the **"Save Settings"** , it means the Com port is correct, otherwise, it is incorrect, please use the dropdown menu to change it.

Step 7: Switch off the unit then remove the USB cable, and Switch on the Unit to finish the setup.

If it hasn't prompted the setup successful, it means the setup is failure, please check the Com port and USB connection, then try to repeat the Step1~Step6 again.

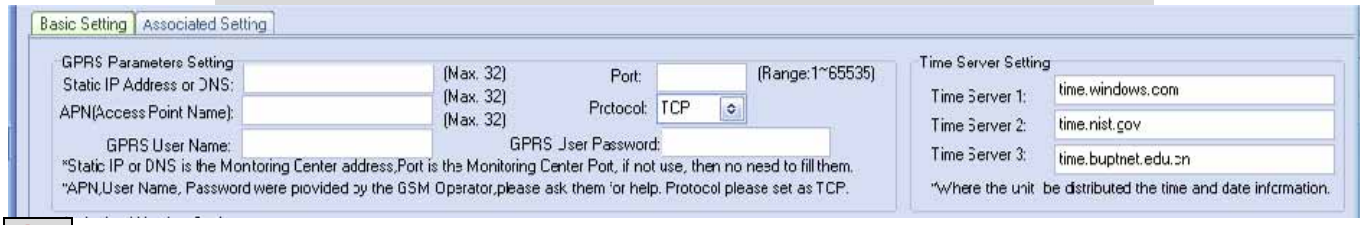
If you want to read the settings, at step 6 please click the Read Settings or other function buttons to instead of Save Settings.

5.1.2 Setup Parameters by PC Configurator

Button Function Definition Table 1

Items	Description
Com Setting	Select the Com port to communicate between GSM GPRS Power Facility Alarm and Computer.
Save Settings	Save the present settings from computer to GSM GPRS Power Facility Alarm.
Read Settings	Read the GSM GPRS Power Facility Alarm present settings to computer.
Save Profile	Save the present settings from computer as a file.
Load Profile	Load the settings from the Saved file in the computer.
Stop	Stop the communication between the computer and Unit.

GPRS Parameters and Time Server Definition Table 2

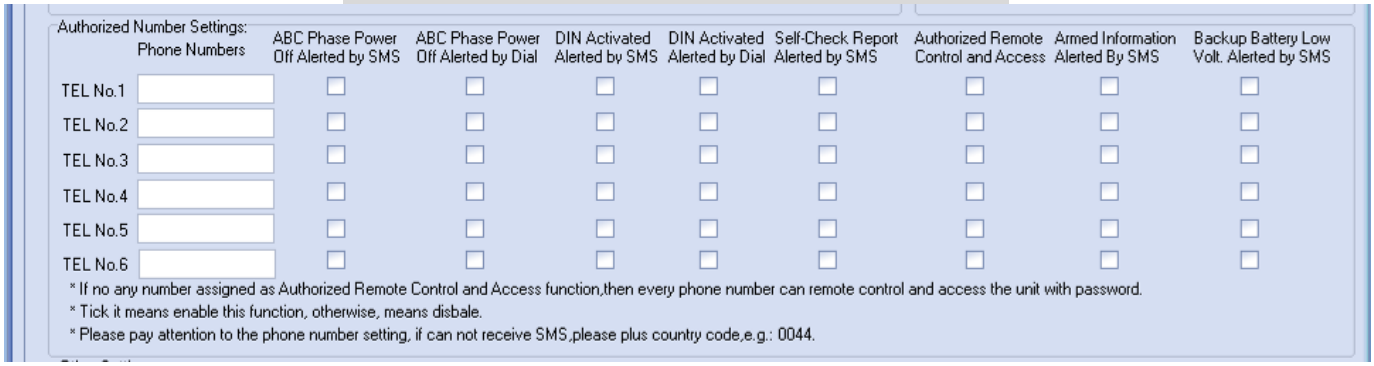


Tips:

1. *If you need the GPRS Communication function to monitoring center, please enable the GPRS at Other Setting Definition Table 4, and setup these parameters, otherwise, please don't setup it.*
2. *The unit will automatically proof time from the GSM Operator Server every 24 hours in order to the time is correct. Only for the first time, if proof time successful, will alert by siren sounds 2 seconds.*

Items	Description
Static IP Address or DNS	Monitoring center IP address or DNS.
APN	GPRS Access Point Name, provided by GSM Operator.
GPRS User Name	Provided by GSM Operator.
Port	The Monitoring Center Port.
Protocol	TCP/UDP Prototocl
GPRS User Password	Provided by GSM Operator.
Time Server	Provided by GSM Operator.

Authorized Number Definition Table 3



Items	Description
TEL NO.1~6	Please add the country code, e.g.: +86 or 0086 in China. When alarm occurrence will autodial or Send SMS to this number. Please see below notice.
ABC Phase Power Off Alerted by SMS	Tick it means when the alarm occurrence, will send SMS to the related Number.
ABC Phase Power Off Alerted by Dial	Tick it means when the alarm occurrence, will auto-dial to the related Number.
DIN Activated Alerted by SMS	Tick it means when the alarm occurrence, will send SMS to the related Number.
DIN Activated Alerted by Dial	Tick it means when the alarm occurrence, will auto-dial to the related Number.
Self-Checking Alerted by SMS	Tick it means when the alarm occurrence, will send SMS to the related Number.
Authorized Remote Control and Access	Tick it means the related number can call in or send SMS to control the unit.
Armed information Alerted by SMS	Tick it means when the armed, will send SMS to the related Number.
Backup Battery Low Volt. Alerted by SMS	Tick it means when the alarm occurrence, will send SMS to the related Number.

Notice:

1. *If no any number assigned as Authorized Remote Control and Access Number, then all phone numbers can call in or send SMS commands to the units with password.*
2. *In some GSM operators they use different SMS protocols, if the unit can't return the SMS confirmation is normally. It is not product problem. Also, you can try to add the country code before the number, see the below settings:*

For example:

In China, the country code is **+86**, or **0086**.

The user cell phone number is **13570810254** and has been assigned as a SMS Alert number, the simcard number in the panel is **13512345678**.

Problem 1: Alarm but the user hasn't received the SMS Alert.

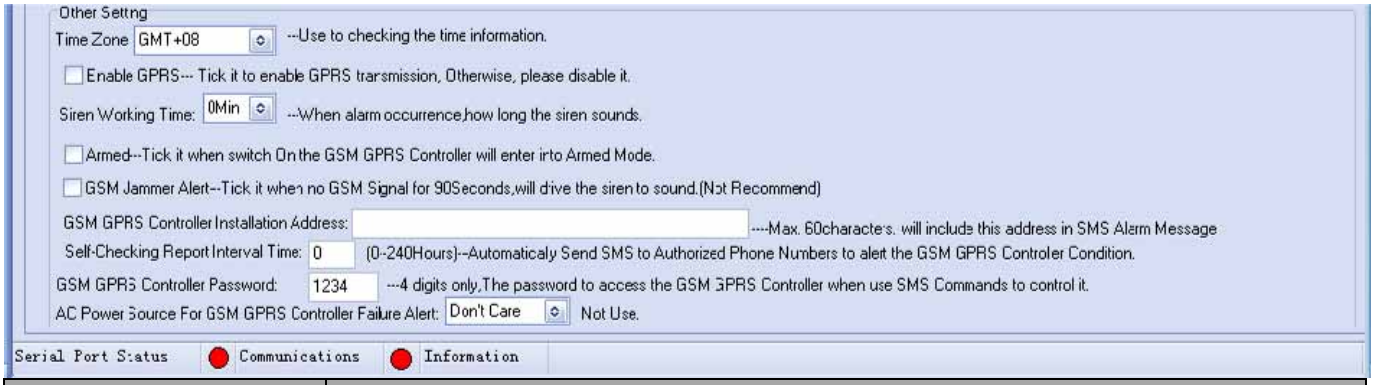
Solution: Please plus the country code while you setup the 13570810254 as SMS Alert number, means setup **+8613570810254 or 8613570810254 or 008613570810254** to instead of the **13570810254**.

Problem 2: The user number can receive the SMS Alert message from alarm panel, but the alarm panel can not receive the commands from the user number.

Solution: Please add country code to the SIMCard number in the alarm panel. Means send sms commands to **+8613570810254 or 8613570810254 or 008613570810254** to instead of **13512345678**.

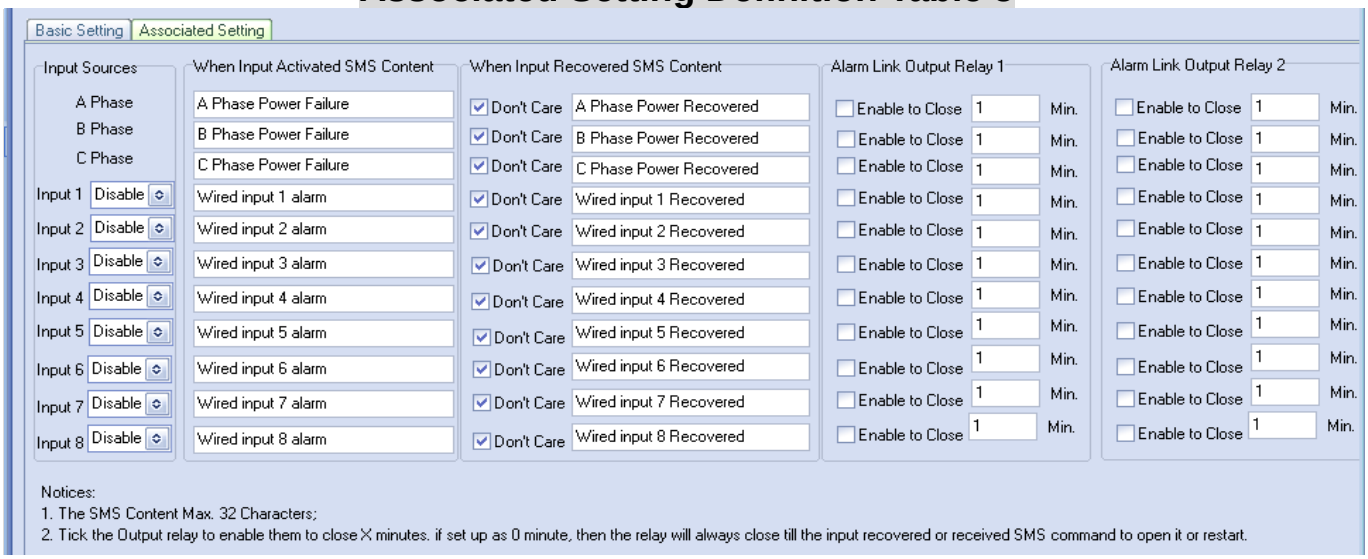
Solution 3: When you use cell phone dial another one, what number it will be displayed then you can set the displayed number as dial numbers; when you use cell phone send SMS to another cell phone, what number it will be displayed then you can set the displayed number as SMS Alert number, just use the "+" to replace the "00", also, you can try the "00".

Other Setting Definition Table 4



Items	Description
Time Zone	To select your local time zone
Enable GPRS	Tick it to enable GPRS Trranmission, if no monitoring center, please don't tick it.
Sound Working Time	Choose how long to the siren make sounds when Alarm occurrence.
Armed	Tick it to setup the unit to arm mode once power on. In this case, any detector triggered will alarm. The system will send out the preset SMS text to and dial to the authorized numbers. and send alarm information to monitoring center by GPRS.
GSM Jammer	Tick it to setup when the unit detected no GSM signal for more than 90 seconds, the siren will sound.(Don't recommend)
Installation Address	The installation address of the unit, will include it in SMS alarm message.
Self-Checking Interval Time	Fill it to setup the Report time gap, Range: 0~240Hours. The unit will automatically send its status to the authorized numbers according to the setting. Only in Armed mode is valid.
Password	To verify the SMS commands from the authorized users and modify new password.
AC Power Failure Alert	To setup when AC power goes off, how long to send SMS to the SMS Alert Number. **Don't Care** means when AC Power goes off will not send SMS to the 1st SMS Alert Number. **Immediately** Means will send SMS to the SMS Alert Number immediately. When AC goes on, the GSM GPRS Power Facility Alarm will send SMS to SMS Alert Number.

Associated Setting Definition Table 5



Items	Description
Input Source	**Disable:** Means this input is invalid; **NC:** Normal Close, open will alarm; **NO:** Normal Open, close will alarm; **EOL:** End of Line, Means must be connected with a 2.2K resistor between the GSM GPRS Power Facility Alarm and digital detector. See installation diagram.
When Input Activated SMS Content	These words or sentences will be sent to the SMS Alert Numbers once the related inputs triggered. Max. Characters: 32. If the inputs keep the triggered status, the GSM GPRS Power Facility Alarm will handle it as one alarm case, will stop to send SMS Alarm message till the inputs recovered and triggered again. This is very useful for the detectors continue keep the triggered status, like temperature detector, water level detectors, etc.
When Input Recovered SMS Content	These words or sentences will be sent to the SMS Alert Numbers once the related inputs recovered. Max. Characters: 32. If you tick the **Don't Care** means when this input recovered, will not send SMS to SMS Alert Numbers. If you like to get SMS alert when the Inputs recovered, then please don't tick it, in this condition, the GSM GPRS Power Facility Alarm only send SMS to all SMS Alert Numbers, will not dial the Alarm Dial Tel. Numbers. This is very useful for owners to know when the inputs recovered, like temperature detector, water level detectors, etc.
Alarm Link Output Relay	Tick it to setup when this input triggered, the alarm link output relay should close, and the relay close time. Otherwise, the alarm link output relay will not close.

6. GPRS Protocol and SMS Command List

The Protocol is special for the customers who want to develop its own Server or HMI or use our CMS-02 Web Based Monitoring Center. Also, through the SMS Commands can setup or inquiry the unit by SMS remotely.

After you setup, the GSM GPRS Power Facility Alarm will return SMS confirmation to alert, if haven't received the SMS confirmation or received "Setup Error", then means the setup is failure, please try again.

6.1 SMS Commands

The characters in the SMS Commands must be **Caps Lock**, means **A** must be **A**, cannot be **a**.

1) Armed

XXXXAA

XXXX stands for Password;

Reply: Armed by *******, ******stands for user mobile phone number.

2) Disarm----In disarm mode, the controller unit will not process any alarm information.

XXXXBB

XXXX stands for Password;

Reply: Disarmed by *******, ******stands for user mobile phone number.

3) Switch ON Relay Outputs

XXXXCb#ttt#

XXXX stands for Password;

b=1~2, b=1 stands for the first Relay output, b=2 stands for the second relay output.

ttt=000~999, 3digits, stands for the relay closed time, Unit is minutes. When ttt=000 stands for the relay will close till received next command to open it. E.g.: 1234C1001 stands for close the relay output 1 close 1 minute.
Reply: Output Relay 1 or 2 Closed and will keep ***minutes.

4) Switch OFF Relay Outputs

XXXXDb
XXXX stands for Password;
b=1~2, b=1 stands for the first Relay output, b=2 stands for the second relay output.
Reply: Output Relay 1 or 2 Opened.

5) Inquiry Unit Status

XXXXEE
XXXX stands for Password;
Reply: IDxxxxxxx: (xxxxxx stands for device ID)
Armed or Disarmed
ABC Phase Power is Ok or ABC Phase Power is Failure
Powered on by Backup battery or Powered on by External Power Source.
GSM:17 (GSM Signal value is 17, 16~30 is the best. If the value is 100 means no signal.)
Relay 1 Closed or Relay 1 Opened
Relay 2 Closed or Relay 2 Opened
Switch:11111111;(Digital input 1~8 status, 0 stands for open, 1 stands for close.)
Month-Day-Year, Hour:Minute:Second (Inquiry time)
@@@@@@@@ (@ stands for the device installation address)

6) Modify Digital Input Activation SMS Alert Content

XXXX#Mb＃text＃
XXXX stands for Password;
b=1~8, stands for the digital input1~digital input8.
Text stands for new SMS Alert content, max.32 characters.
Reply: OK.
Notice: *If you enable the digital input recovery will alert by SMS, those SMS Contents cannot be modified by SMS Command, must via the PC Configurator.*

7) Modify ABC 3phase Activation SMS Alert Content

XXXX#Nb＃text＃
XXXX stands for Password;
b=1~6, when b=1~3 stands for the A,B,C 3 phase, when b= 4~6 stands for the A, B, C recovered.
Text stands for new SMS Alert content, max.32 characters.
Reply: OK.
E.g.: Setup the B phase recovered need send SMS B phase power failure. Then you can send SMS Content: *XXXX#N5#B phase power failure# to the S250*.

8) Authorized numbers settings

XXXXTb#TEL#cccccccc

XXXX stands for Password;
b=1~6, stands for the first Authorized telephone number to the sixth authorized number;
TEL stands for telephone number, max. 20 characters;
cccccccc: 8 c from left to right stands for ABC Phase Power Off Alerted by SMS, ABC Phase Power Off Alerted by Dial, DIN Activated Alerted by SMS, DIN Activated Alerted by Dial, Self-Checking Alerted by SMS, Authorized Remote Control and Access, Armed information Alerted by SMS, Backup Battery Low Volt. Alerted by SMS.
c=0~1, when c=0 stands for disable, when c=1 stands for enable.
Reply: All configured authorized numbers and their rights.

9) Modify Password

XXXXPtttt

XXXX stands for Password;
tttt stands for new password.
Reply: This is the New Password, please remember it carefully.

10) Enable/Disable GPRS Communication

XXXXEIb

XXXX stands for Password;
b=0~1, when b=0 stands for disable GPRS Communication, when b=1 stands for enable GPRS Communication.
Reply: EI SET OK

Tips: *if you setup b=0, means not use GPRS Communication, then no need to setup the below 10)~12) items.*

11) Setup GPRS User Name and Password

XXXXIUaaaaaa;bbbbb#

XXXX stands for Password;
aaaaaa stands for GPRS User name, max.32 characters;
bbbbbb stands for GPRS Password, max.32 characters.
Reply: IU SET OK

12) Setup APN

XXXXIAxxxxxxxxx;b#

XXXX stands for Password;
xxxxxxxxx stands for APN name;
b stands for GPRS Protocol, when b=T stands for TCP protocol, when b=U stands for UDP protocol, we are not recommend use the UDP protocol.
Reply: IA SET OK

13) Setup IP Address, DNS and Port

XXXXIPxxx.xxx.xxx.xxx;pppppp#

XXXX stands for Password;
xxx.xxx.xxx.xxx stands for IP address or DNS, max. 32 characters, e.g.: 192.168.1.11 or www.gprstemplogger.oicp.net or www.gsmalarmsystem.com

pppppp: stands for monitoring center port, max. 6 characters.
Reply: IP SET OK.

6.2 GPRS Data Format Description

The GSM GPRS Power Facility Alarm will send alarm information to monitoring center over GPRS TCP protocol, the data format is below, the client can reference below data format to develop its special monitoring center. Below metioned 2566143 is the device ID, the abc12345678 is the installation address.

1. ID2566143:Door Open;Time:11-01-12 11:10:58;abc12345678
2. ID2566143:A Phase Power Failure;Time:11-01-12 11:16:26;abc12345678
3. ID2566143:A Phase Power Recovered;Time:11-01-12 11:17:48;abc12345678
4. ID2566143:B Phase Power Failure;Time:11-01-12 11:19:06;abc12345678
5. ID2566143:B Phase Power Recovered;Time:11-01-12 11:19:39;abc12345678
6. ID2566143:C Phase Power Failure;Time:11-01-12 11:20:51;abc12345678
7. ID2566143:C Phase Power Recovered;Time:11-01-12 11:21:51;abc12345678
8. ID2566143:Wired input 1 alarm;Time:11-01-12 11:22:26;abc12345678
9. ID2566143:Wired input 1 Recovered;Time:11-01-12 11:22:38;abc12345678
10. ID2566143:Powered on by backup battery now;Time:11-01-12 11:30:55;abc12345678
11. ID2566143:Powered on by external power source now.;Time:11-01-12 11:32:50;abc12345678
12. ID2566143:Armed;ABC Phase Power is Ok;;Power on by External Power Source;GSM:31;Relay 1 Opened;Relay 2 Opened;Switch:00000000;Time:11-01-12 12:30:31;abc12345678

6.3 Alarming Description

The GSM GPRS Power Facility Alarm with time-stamped function for the events. The device will automatically plus the Device ID, followed by present time(Time format is Month-Day-Year Hour:minute:second),and the event content, then the device installed address in all events.

When alarm occurrence, the GSM GPRS Power Facility Alarm will send SMS to the preset numbers firstly, then call the authorized numbers one by one, if nobody answer it, will call total 3times, if any one answered the call, will not continue call others. If enable the GPRS function, the GSM GPRS Power Facility Alarm will automatically transmission alarm information to the monitoring center over GPRS. If enable the relay to close, then the relay also will close for the preset time. If contacted the external siren, the siren also will sounds.

When the present alarming hasn't finished, the GSM GPRS Power Facility Alarm will not handle the next alarm event till the present alarming finished. If the present alarming had finished, and the next alarm event still in alarming condition, the GSM GPRS Power Facility Alarm will handle it.

Notice:

1) The digital input 1~8 and ABC 3phase activated will alarm only in armed mode, in disarmed mode, activated will not alarm.
2) Temper switch, battery low voltage and external AC power failure lost will alarm in both armed mode and disarmed mode.
3) When power on the GSM GPRS Power Facility Alarm and enter into Armed mode, will automatically detection the ABC 3phanse status,if any phase or more than one phase failure, will alarm immediately.
4) When the digital inputs recovered, the unit will only send SMS to alert, will not call, close the relay and

the siren will not sound.

5) Internal backup battery low voltage SMS Alert Content: Backup battery with low Voltage now!
6) External AC Power Failure SMS Alert Content: Powered on by backup battery now!
7) External AC Power Recovered SMS Alert Content: Powered on by external power source now.
8) Tamper Switch Alarm occurrence SMS Alert Content: Door Open.
9) Digital 1~8 and ABC Alarm occurrence SMS Alert content according to the user setup.
10) Self-Checking Report SMS Alert Content:

IDxxxxxxx: (xxxxxx stands for device ID)
Armed or Disarmed
ABC Phase Power is Ok or ABC Phase Power is Failure
Powered on by Backup battery or Powered on by External Power Source.
GSM:17 (GSM Signal value is 17, 16~30 is the best. If the value is 100 means no signal.)
Relay 1 Closed or Relay 1 Opened
Relay 2 Closed or Relay 2 Opened
Switch:11111111;(Digital input 1~8 status, 0 stands for open, 1 stands for close.)
Month-Day-Year, Hour:Minute:Second (Inquiry time)
@@@@@@@@ (@ stands for the device installation address)

7. Installation

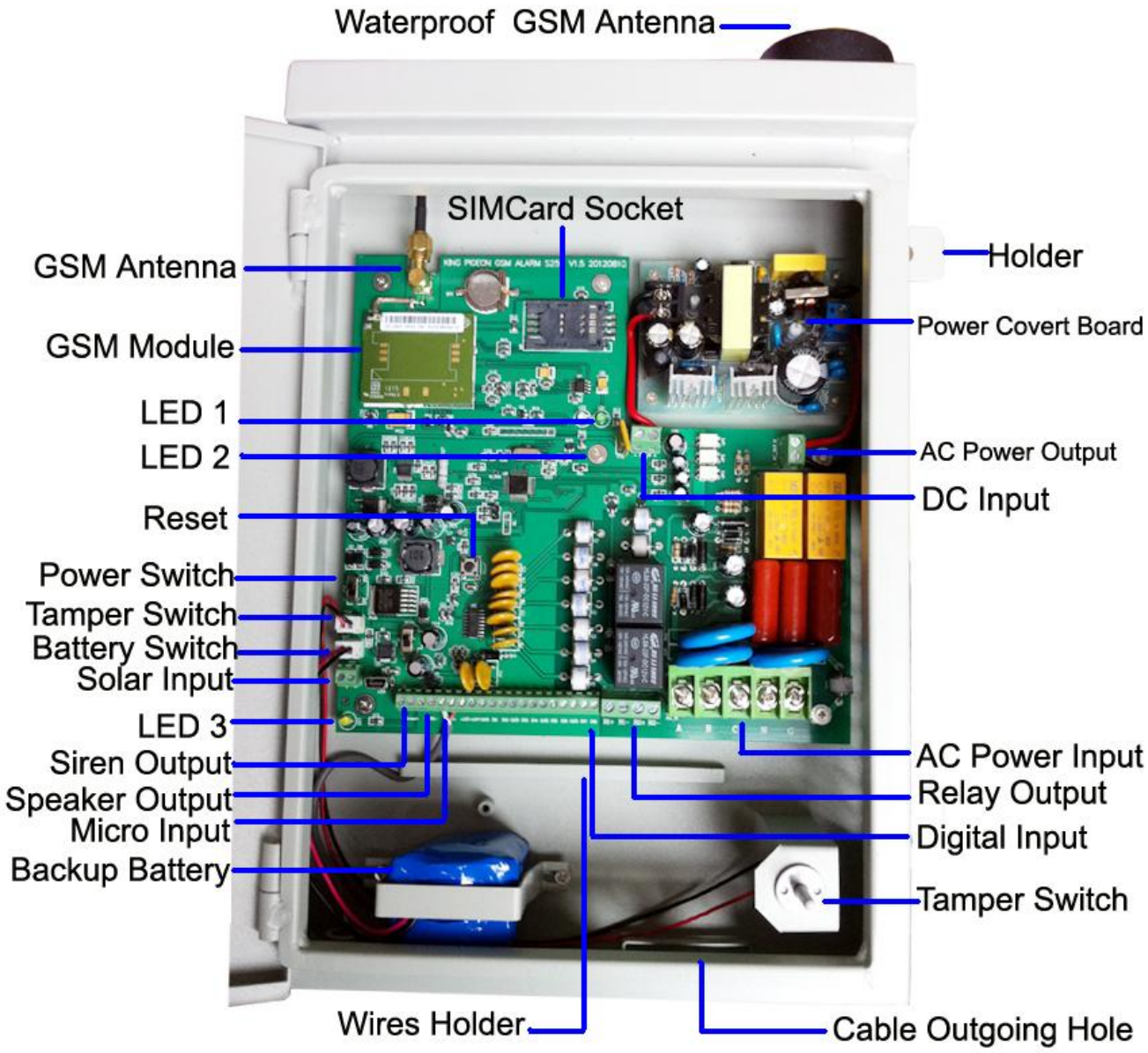
Before installing the control unit to fields, please help to test the system firstly, including wired detector, power supply, gsm signal, etc.

7.1 Checking the standard packing list

The standard packing list includes 1 X Control Panel, 2 X Waterproof Screw Holder, 2 X Lock Keys. Open the enclosure by the Lock Key(the keys in the package, under the waterproof screw), then learning the *Control Unit physical layout according to below definitions.*

Interface 1 Instruction

LED1	The Power status indicator, when power on the LED will turn normally on.
LED2	GSM GPRS Module indicator, gsm registered network successful will slowly flick, otherwise, quickly flicks.
Reset	This is the reset button(Nearby SIMCard), Press the button then switch on the panel, after alerts 3 sounds then loose the button(Must connect the siren firstly) or LED3 will flicks if no siren. After reset, all of the parameters will recovery to defaults.

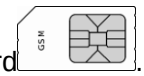


Interface 2 Instruction

Connector Definition	
TSW	Tamper Switch, NC, Open will alarm.
BAT	Backup battery connector.
SOP	Solar Panel power input connector.
USB	USB Port for configuration.
J1	Relay Output 1 Connector.
J2	Microphone input
J3	Relay Output 2 Connector
J4	Speaker output

J5	Digital inputs and DC Power output, please see below J5 Definition.
J6	Siren output
J14	Power Switch
AC IN	AC Power input, 100～240V. Includes A、B、C 3-Phase, N, G.
AC OUT	AC Power output through Switching Power Supply Board.
DC IN	DC Power input from Switching Power Supply Board.
J5 Digital Input Connector Definition	
+12V	11~13.5VDC positive electrode Power output, fuse inside.
+12V	11~13.5VDC positive electrode Power output, fuse inside.
GND	GND (Fuse inside).
IN1	Digital input1, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
IN2	Digital input2, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
GND	GND (Fuse inside).
IN3	Digital input3, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
IN4	Digital input4, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
GND	GND (Fuse inside).
IN5	Digital input5, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
IN6	Digital input6, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
GND	GND (Fuse inside).
IN7	Digital input7, Dry contact, Lightning protection, Electrostatic protection, Over current protection.
IN8	Digital input8, Dry contact, Lightning protection, Electrostatic protection, Over current protection.

7.2 Insert SIMcard into Control Unit

In the backside of the control unit, please install the GSM SIM card 

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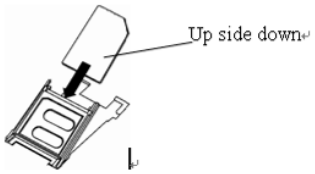


7.3 Install the Waterproof Screw

Please find out the screw in the package.all of the internal wires will be pass through these screw holes. Please note one hole for low-voltage signal wires like detector wires, another for high voltage wires like AC Power.

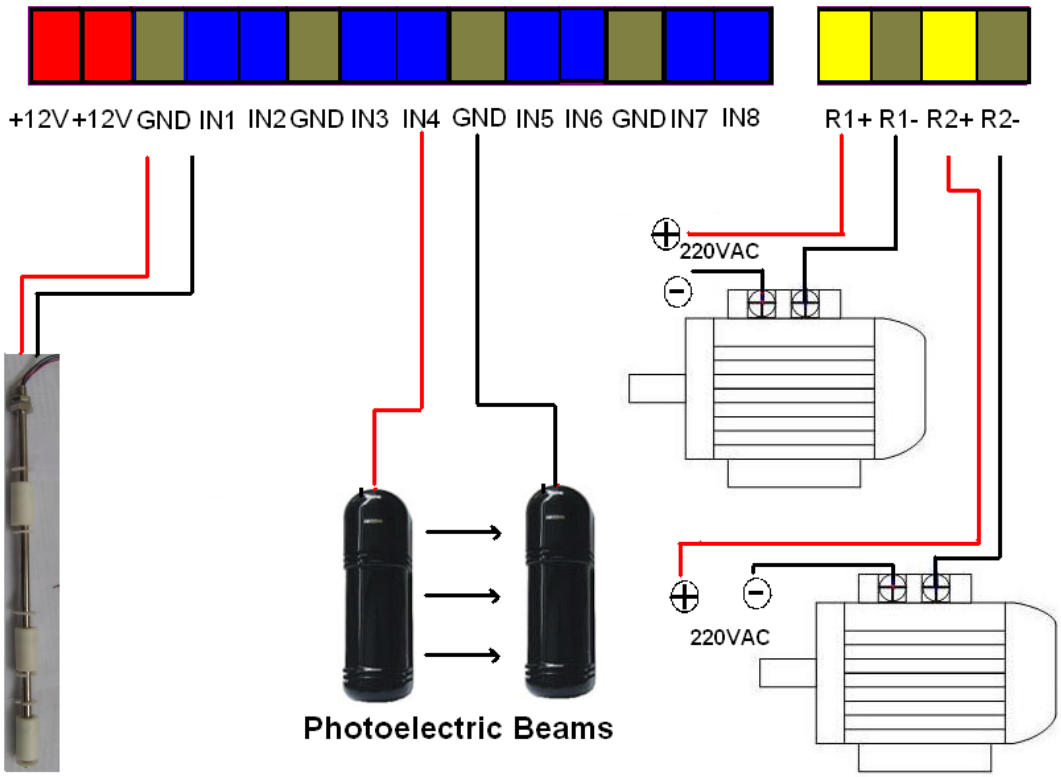
7.4 Connecting the Wired Detectors and Electricity equipments

Please help to install them by electricity engineer according to the connector definitions carefully. The user can connect Siren, Speaker, Solar Panel and wired inputs, relay outputs.
Please help to see below wiring diagram, then fixed the related wired detectors; the detectors connect to the related digital inputs.

Tips!

1) *Please setup the Disable(Default), NC, NO, EOL type in the PC Configurator correctly;*
2) *If you setup the input type as Disable (Default), then the input port will be invalid. We recommend customer setup the no-use input port as Disable type.*
3) *If you setup the input type as NC, the detector type must be NC, and if more than one detector contact to one input port, they're must be in series connection. Please see below diagram.*

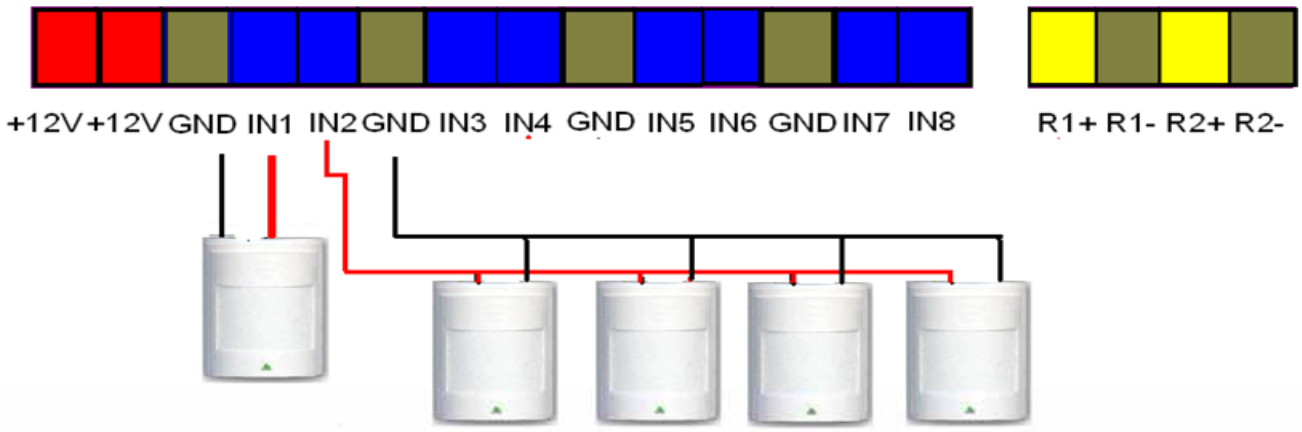
NC Type Connection



***
1. The two +12V are power source for wired sensors;

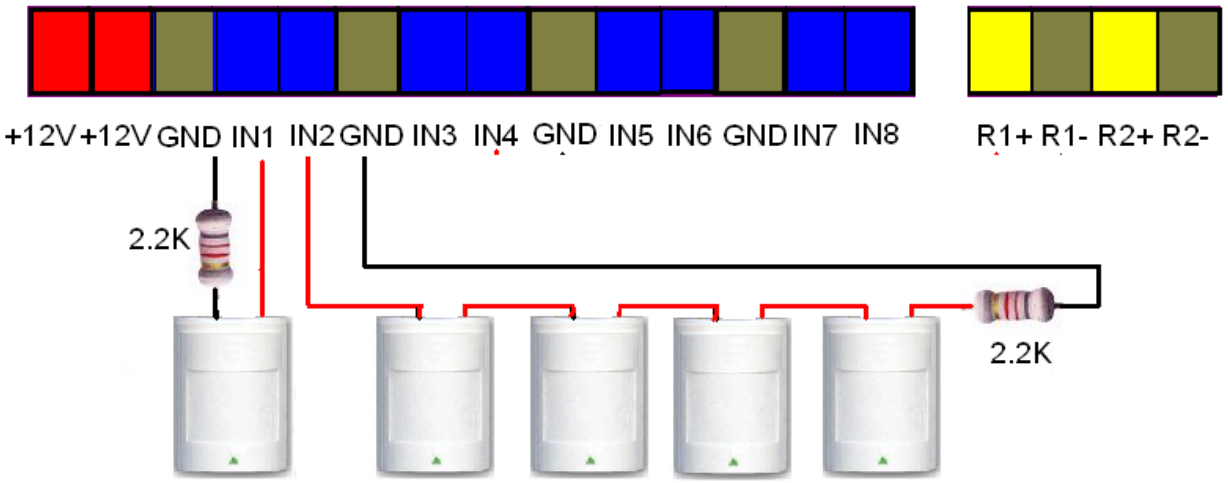
4) *If you setup the input type as NO, the detector type must be NO, and if more than one detector contact to one input port, they're must be in parallel connection. Please see the below diagram.*

NO Type Connection



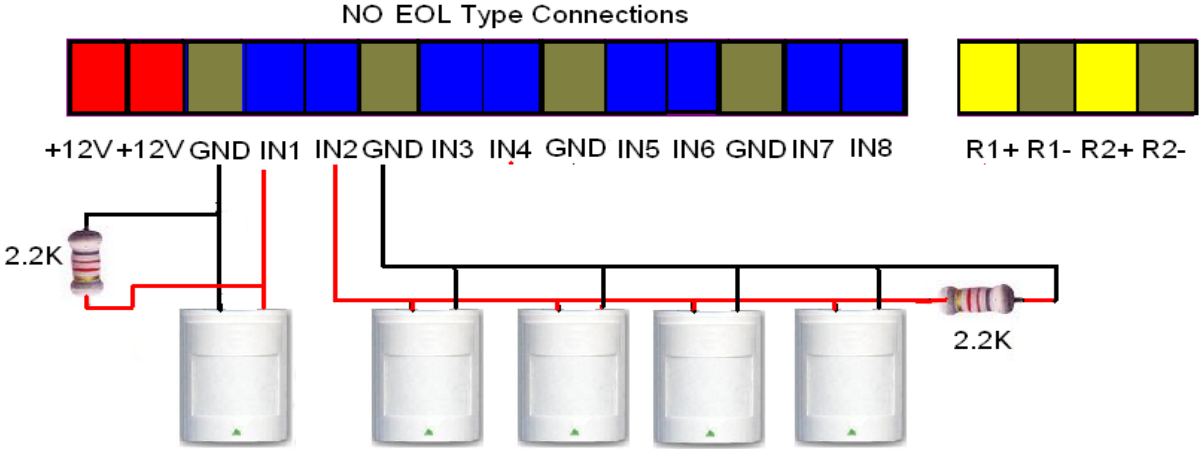
5) *If you setup the input type as EOL, (This type is very useful to monitor the detectors connection condition; intruders cut the detectors' wires.)*
   a) *if the detector is NC type, then must be in series connection with a 2.2K Resistor;*
   b) *if more than one NC detector contact to one input port, all detectors are NC type, and must be in series connection with a 2.2K Resistor, the 2.2K Resistor must be placed in the last detector. Please see the below diagram.*

NC EOL Type Connections

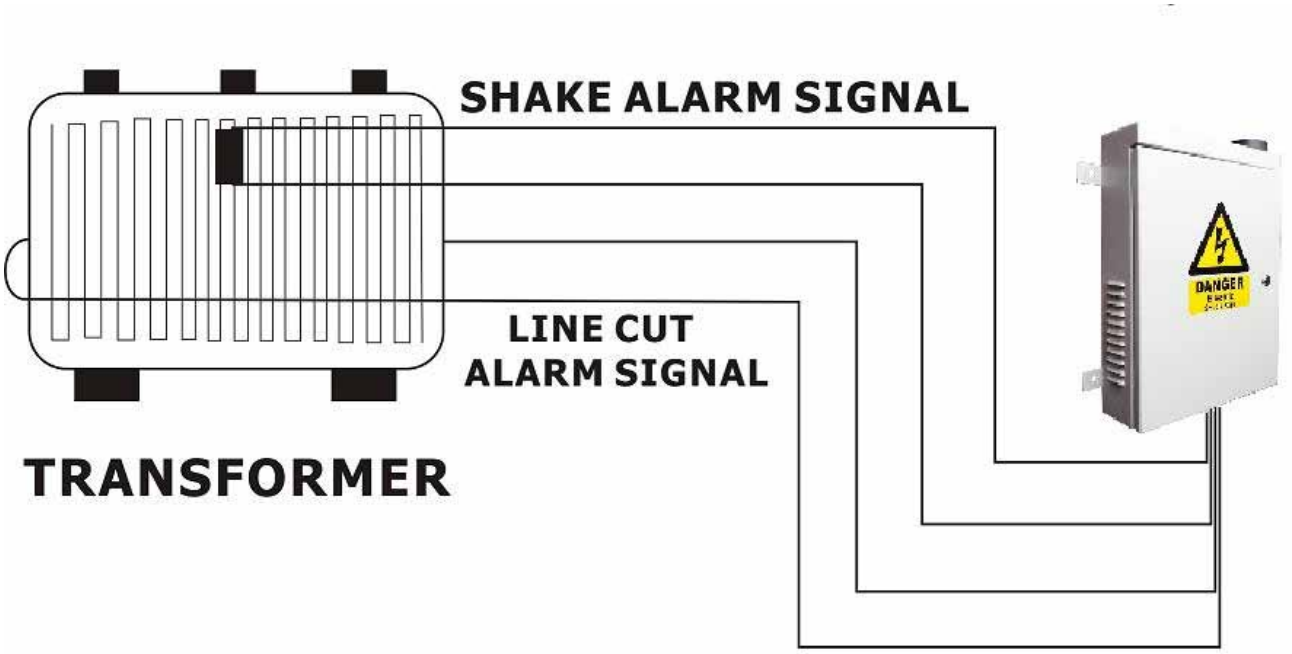


   c) *if the detector is NO type, then must be in parallel connection with a 2.2K Resistor;*
   d) *if more than one NO detector contact to one input port, all detectors are NO type, and must be in parallel connection with a 2.2K Resistor, the 2.2K Resistor must be placed in the last detector. Please see the below diagram.*

NO EOL Type Connections



6) *If you want to use the relay outputs,please make sure the power cord rated while you connect to equipment device. Also, please make sure the power consumption is less than 250W for long time working (Approximate 2Hours). If you need heavy equipment, please connect an additional relay ;(Notice: When AC Power goes off, the Relay will not work.)*
7) *If the the relay outputs are for alarm-link output rela y, when the system alarm, will close, the relay close time according to* **Relay Working Time.** *The rated output power is 700W. If you need heavy equipment, please connect an additional relay.*
8) *If the relay outputs are for SMS Command, CC is close, DD is open, and EE is inquiry the status.*
9) *The +12VDC is for the Detectors, if the detectors need 12VDC power, then please contact it to the +12VDC. The 12VDC power is from external power, when external AC Power goes off, the 12VDC will from backup battery.*
10) *If you want to contact the wires to bind the transformer in order to fascinate it or take away by intruder. Then please use a electric wire to bind it, and setup the digital input as NC, so when the intruder cut the wires, will active the input and alarm at once. See below, also you can install the vibration detector to monitoring the shake of the transformer.*

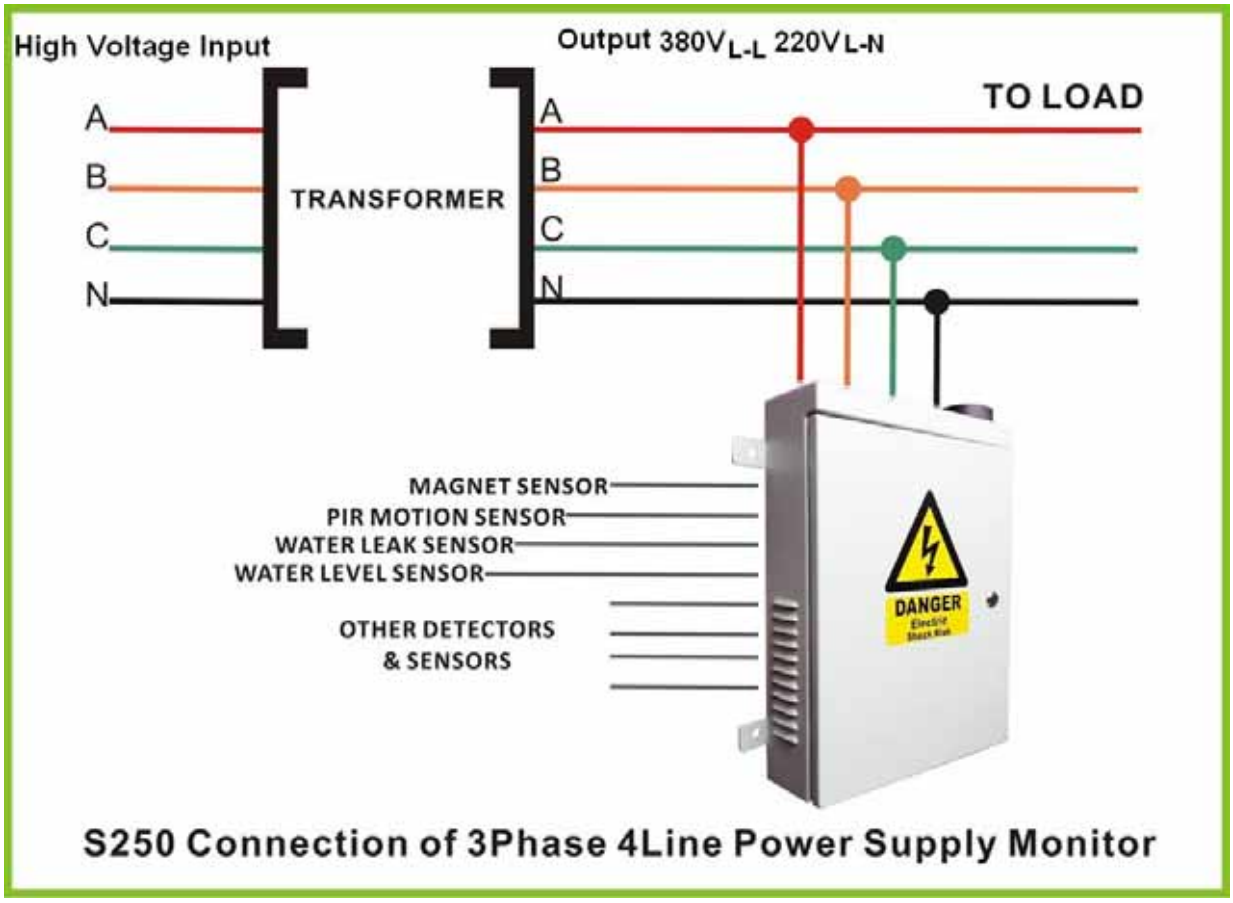


7.5 Connection for controller unit outer-connection of three phases and four lines and outer detector

The input voltage is no matter how many KV to the transformer, but the AC Power output from the transformer must be meet this requirement: Line-to-Line is 380V, Phase Voltage is 220V or 110V. Because of the three phases and four lines mainframe out-connected is high voltage, the installation of its AC 380V power must be assisted by professional electrician, must follow the order of **ABCN**.

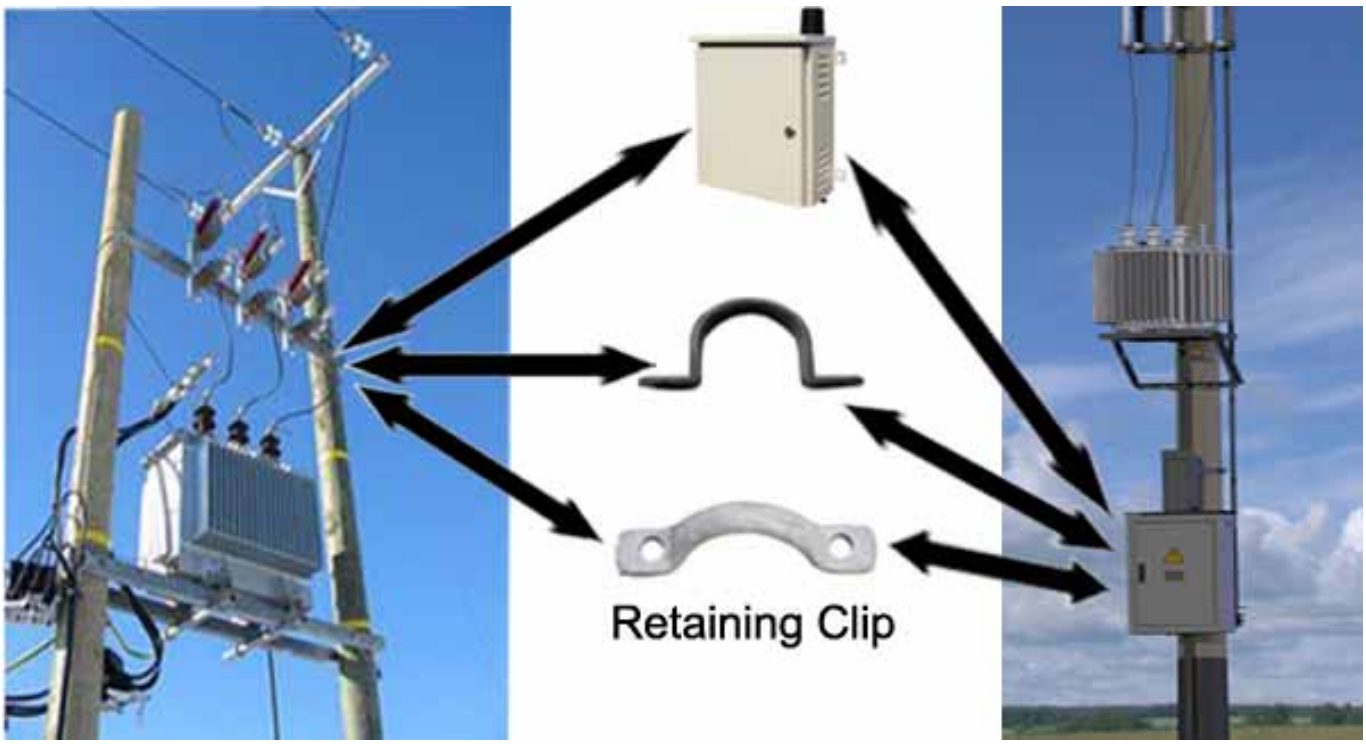
Warning:

Neutral lines and phase line can't connect incorrect.



7.6 Install the Controller Unit

The Controller unit with weatherproof enclosure, please fixed it by the holders or screws. Also, please ensure the controller unit is not the highest device to avoid the lighting.



8. Monitoring Center

The GSM GPRS Power Facility Alarm supports SMS, Dial and GPRS, so the users can build monitoring center according to their requirements to monitoring the equipments distributed throughout the country in the monitoring room.

1). By SMS to monitoring center, the monitor center can use the GSM SMS Alarm Receiver, once the GSM SMS Alarm receiver received the alarm SMS, will start the siren and display the alarm information at the LCD directly;

2) By GPRS to monitoring center, the user can design its own monitoring center according to the GPRS Protocol as abovementioned, also, the user can use our web based monitoring center CMS-01 directly. More about the web based monitoring center CMS-01 please contact to our agents or us.

3) Moreover, the user can develop its own monitoring center according to the GPRS Protocol abovemtioned.

9. Typically Applications of the S250

1) For Electricity transformer Anti-theft in substations or transmission in power distribution grid.
2) For High Voltage cable anti-theft in electricity transmission applications.
3) For outdoor mobile phone tower equipment anti-theft and remote control.
4) For other outdoor applications anti-theft and remote control.

10. Technical Specification of the S250

Rated Voltage: 110~220VAC 2A
Standby current: 5mA
Working temperature: -35℃～+80℃
Storage temperature: -35℃～+80℃
GSM Band: 850/900/1800/1900Mhz
GSM Emission Power: GSM850/EGSM900 Class4(2W)
DCS1800/PCS1900 Class1(1W)
GPRS Protocol: GSM/GPRS Phase2/2+
GPRS Data: GPRS CLASS12, CS 1,CS 2,CS 3,CS 4,PBCCH,TCP/IP ACK
Digital input: 8 (Dry contact, NC/NO/EOL)
Digital Output Relay: 2 (10A/240VAC)
Solar Panel Input: Recommend 12W, 12~18V DC
Grid Level:Y form, three phases four lines
Singe-phase standard work voltage: AC220V
Singe-phase lowest work voltage: AC110V
Singe-phase highest work voltage: AC270V
Protective Tube Capacity: 3A
Anti- electromagnetism Interfere: IEC55022
Insulation Level: Grade B
Backup Battery: 3 X 1200mAH Rechargeable lithium battery
Standby time Approx.18hours (depending on the network condition)
Relative Humidity: 10-90%, No condensation

Waterproofing Grade: IP55

Enclosure Material: Metallic plus outdoor paint
Size: 290mm*200mm*55mm (LXWXH)
Net Weight: 2.50Kg

11. Warranty

1) This system is 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.